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BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(*Continued from p. 30.*)

130. **Buteo pterocles** *Temm.* AGUILA (EAGLE).—Many individuals of this species were seen on the Arroyo Gualeguaychú the last of April, and one was secured there. Another was brought me from an estancia near town on July 2. They were usually noticed sitting very upright on the tops of tall trees, where it was almost impossible to get within shot.

Falconidæ 2246

131. **Buteo erythronotus** (*King*).—Many were seen on the Pampas, April 10 and 11, while travelling by diligence from Carhué to Azul. They frequently remained perched on the iron telegraph poles beside the road, allowing the coach with its ten horses to pass at full gallop within easy gunshot of them. At such times the characteristic markings were easily distinguishable.

132. **Heterospizias meridionalis** (*Lath.*). AGUILA ROJIZO (REDDISH EAGLE).—Not unfrequently seen at Concepcion in cold weather, and a single one was seen as late as September 29.

Boucard Collection No 52240

About July 21, 1880, during an almost unprecedented rise of the river, many rather scarce Hawks became quite abundant for a few days, and among them was the present species. A female, taken July 21, appeared so gorged with food that it was easily

shot, but an examination showed that though its crop was crowded to its utmost capacity, it contained nothing but young grasshoppers, not a trace of other food being found in its stomach.

133. **Geranoaetus melanoleucus** (*Vieill.*). AGUILA (EAGLE). — An abundant resident at all points visited, and not at all difficult of approach. In ascending the Uruguay by steamer it is one of the most constant features of the landscape, sometimes seen sailing in circles overhead, but oftenest sitting motionless on the highest branch of some dead tree which rises from the tangled masses of lower growth on the low islands along the swampy shores. On the Pampas it was frequently observed, and on the Ventana, where it was abundant and doubtless nested, it was ridiculously familiar.

While hunting Partridges one morning, I walked directly up to one of these Eagles, as he sat on a stone gazing at me, and when, finally, at a distance of eight or ten yards, he started to fly, a charge of No. 8 shot was sufficient to stop him. The same morning another was killed in almost the same way with No. 6 shot. On March 8, while near the Ventana, a pair was seen in a plumage entirely new to me. Seen from below they were entirely glossy black, with the exception of the tips of the tail-feathers and primaries, which were pure white. If this is the normal adult plumage it must be rare, at least about Concepcion, as I never met with an example of it among over a hundred specimens observed there. Of the nesting habits I learned nothing, except that on the Ventana a pair constantly resorted to an inaccessible ledge near the summit, where I believe they must have had a nest. Döring says they nest abundantly *on the ground* along the Rio Negro of Patagonia, placing the nest usually, however, on some small eminence along the bank of the river.

134. **Accipter** *sp. incog.* A female of a species allied to *A. fuscus* was taken at Concepcion, July 14, 1880, and another individual (possibly the mate) was seen very near the same spot a few days later.

135. **Falco sparverius** *Linn.* ALCONCITO (LITTLE FALCON). — A very abundant bird at Concepcion, where a few are resident and doubtless breed, but especially plentiful in spring and autumn. I did not see its nest.

A young female taken January 21, 1880, was peculiar in having the ovaries of *both* sides equally developed, though both were small.

This species was also abundant at Bahia Blanca and along the Sierras to Carhué.

136. **Elanus leucurus** (*Vieill.*). — A rather scarce resident. I noted it only about twenty times in the course of as many months. It was oftenest seen in winter.

137. **Rostrhamus leucopygus** (*Spix*). — Apparently not common, as it was only taken twice — both times in summer and in swamps where *Ampullaria* abound.

I once saw at Concepcion a flock of fifteen or twenty small Hawks hovering over the interior of a swampy island, and presume they belong to this species as they were not "Chimangos," and I never saw any other species congregate in this way.

138. **Milvago chimango** (*Vieill.*). CHIMANGO. — By far the most abundant of the birds of prey, it being no unusual thing to have thirty or forty in sight at once. They take the place of our Crows, walking about in the plowed fields, collecting around the slaughter-houses or any dead animal in the fields, haunting the margins of the rivers, and keeping an eye on all exposed bird's nests. They are very unsuspicious, and being seldom shot at, may be approached, at almost any time and place, without any precautions. They are credited (doubtless correctly) by some writers with nesting on the ground, but this does not seem to be true of them at Concepcion. I inquired carefully of the natives, and was invariably told that they nested "like the Carrancho," in trees.

On September 26, I saw a pair carrying sticks to a tree in which there was a partly completed nest, but the birds dropped the sticks on finding themselves observed. Again on November 6, I found in a tree a nest of sticks in which were the shells of several eggs precisely like those brought me by natives as veritable eggs of the Chimango, as I believe they were.

Considering the abundance of the birds, and their familiarity, it seemed strange to me that although I frequently searched in many localities, both on the ground and in trees, I never discovered an occupied nest of this species. As before stated, however, during the spring months I was often unable to give more than half a day per week to field work, and this will, perhaps, account for many oversights with regard even to common birds. The eggs which I obtained were miniatures of those of the following species.

139. **Polyborus tharus** (*Mol.*). CARRANCHO (meaning unknown). — Abundant and well known everywhere, but appearing

in unusual numbers wherever the food supply is suddenly increased, as for example, during those periodic overflows of the river to which the name *creciente* is given. When the rise is quite sudden the destruction of small quadrupeds is very great, and the Carranchos are very sure to be on hand. The regular *creciente* occurs usually in October, and the river then rises gradually to a height of five or six feet above its usual mark, and in the course of a week or two, subsides again quietly. In July, 1880, however, the river rose quite suddenly until it reached a point some twelve feet above low-water mark. As a result hundreds of square miles of low land were flooded, and in many places the water extended backward along the smaller affluents for many miles, doing considerable damage to stock, etc. Of course there was a general exodus of "all four-footed beasts and creeping things" from the flooded district. Along the edge of the water thousands of the little cavias scampered in dismay, while the bodies of thousands of others were thrown up to the waiting Carranchos, which stalked along the shore by hundreds. Wild cattle which had been hiding for years in the swamps were now forced to come ashore and take their turn under the lazo, while many a rare deer and rarer jaguar fell victim to the rifle of the estanciero. For a week or two the unequal struggle went on, and then the receding waters allowed the survivors to return to their old haunts, if they could find them, while the estanciero quietly counted his bundles of new hides and wished the river would rise every year to the same height.

While the high water lasted the Carranchos, gorged with carrion, and naturally heavy and sluggish, were almost as tame as barn-yard fowls, and there was abundant opportunity for any one so disposed to study their disgusting habits and make his series of skins as large as he pleased. I respectfully declined the offer, so far as the skins were concerned, preferring to keep my entomological and ornithological collections separate so far as practicable.

Although feeding frequently on carrion, the birds evidently appreciate fresh meat as well. I once had hard work to prevent a Teal, which had fallen in the water, from being carried off by one, and though I did succeed in this case I was less fortunate at other times. While shooting Ducks along the Piqué in March I killed a beautiful pair of Cinnamon Teal, and wishing to keep them clean

and unruffled, to be skinned later, I laid them somewhat out of sight among the pampas grass, intending to take them on my return in half an hour. At that time, however, I found only a couple of Carranchos, each seated sleepily in the midst of a little circle of brown feathers, amongst which not the smallest morsel of skin, flesh, or bone was to be found.

The eggs were laid at Concepcion from the middle of September until late in November. They vary very much in color, but the average egg showed little trace of the original ground-color, being simply mottled with heavy dashes, spots, and blotches of several shades of brown. Eggs average $2\frac{1}{5}$ in. by $1\frac{3}{4}$ in. The bulky nests were sometimes placed quite low on the tops of low, spreading trees, one which I found being only eight feet from the ground. More often, however, the nest is placed at a height of from twenty to forty feet.

140. **Cathartes atratus** (*Bartr.*). CUERVO (CROW). — Not seen at all at Conception, but said to have been very numerous in times of drought, when the sheep died faster than they could be skinned. It was occasionally seen in small numbers about the Sierras of the Pampas, the last being seen at Carhué, April 4.

On the Uruguay it was always spoken of as the *Cuervo* (Crow; Raven), but about Buenos Aires the commoner name was *Gallinaza* (Vulture).

NOTE. — I am not sure that I ever saw *Cathartes aura*, not being familiar with its appearance on the wing, but I find the following in my note-book, under date of March 4, 1880, while camped at the foot of the Sierra de la Ventana.

"Several times since camping here, I have seen a very large bird which seems to be larger in body than the common Eagle (*G. melanoleucus*) and with a very long tail. They hunt over the mountains as well as the level ground, and rise in spirals nearly as well as *Haliaetus*." I remember that when attacked by a pair of the latter, which probably had an eyrie among the crags near by, they soon distanced them by rising in spirals, though both species did considerable flapping before the Eagles abandoned the pursuit. I thought at the time, and am still inclined to believe, that this bird was *Cathartes aura*.

(*To be continued.*)

ON CHANGES IN ORNITHOLOGICAL NOMENCLATURE—A REPLY TO CRITICS.

BY LEONHARD STEJNEGER.

"Consistency is a jewel."—Dr. E. COUES.

A SHORT paper of mine, published about a year ago, entitled: 'On some generic and specific appellations of North American and European birds,'* was intended to furnish such data as might be properly considered in studying the nomenclature of North American and European birds. It has caused considerable comment, and two courteous editorials—one in the 'Bulletin of the Nuttall Ornithological Club' (VI, 1882, p. 178), and the other in 'The Ibis' (1883, p. 116)—have passed several remarks upon it, which make an answer from me desirable. My excuse for presenting a reply so late is that I have but recently returned from my journey to the Commander Islands and Kamtschatka.

The American reviewer admits that a principle, like that which I want rigorously enforced, is most likely to bring the now almost overpowering confusion to an end. He says: "We believe that the surest way out of the nomenclatural difficulties that beset us is to be found in some such simple rule as this, and that to upset every name that can be upset according to any recognized principle is really the shortest road to that fixity of nomenclature for which we now all sigh like furnaces." But nevertheless he thinks that there ought to be a statute of limitation, "by which a bird resting in undisturbed enjoyment of its name for, say, a century, or half a century, should not be liable to eviction under the common law of priority."

Now, in the first place I wish to emphasize that a law, may it be ever so good, will never bring the longed-for result, unless enforced rigorously; that is, *without exception*. If the law prohibiting changes of names which have been in use for fifty years, shall be applied to changes proposed by me, it must also be applied to changes proposed by other authors. If we take the two leading lists of North American birds, Coues's and Ridg-

* Proc. U. S. Nat. Mus. V, 1882, pp. 28-43.

way's, we shall find many names which will have to be given up. I will only mention a few examples, in order not to swell this paper, as everybody who is somewhat familiar with the subject can easily make considerable additions to the list. We then would have to drop:—

Alle nigricans	for	*Mergulus alle.*
Simorhynchus pygmæus	"	*S. camtschaticus.*
Colymbus torquatus	"	*C. glacialis.*
Histrionicus minutus	"	*Cosmonetta histrionica.*
Cygnus columbianus	"	*C. americanus.*
Asio accipitrinus	"	*A. brachyotus.*
Pinicola enucleator	"	*Corythus enucleator.*
Pica rustica	"	*P. caudata*, etc., etc.*

What under such circumstances would be the fate of Bartram's names, such as *Elanus glaucus* (Bartr.) Coues, *Ictinia subcærulea* (Bartr.) Coues, *Corvus frugivorus* Bartr., *Spizella agrestis* (Bartr.) Coues, *Botaurus mugitans* (Bartr.) Coues, *Aramus pictus* (Bartr.) Coues, etc., etc.? Are we going to give up again Forster's names of 1772? And how about those of Philip Statius Müller restored by Cassin, or the numerous names of Boddaert?

Another question presents itself in this connection: How are we then going to deal with names that have for more than half a century been wrongly identified? Thus, for instance, to cite one of my proposed changes, *Totanus glottis*, which Coues still gives as "(L.) Bechst.," although it seems evident that Linneus's and Bechstein's *glottis* are two widely different birds? Some European authors, not long ago—and most certainly more than fifty years after Bechstein's mistake—adopted Gmelin's name *cinerascens;* but why not accept Gunnerus's name, which is older, better defined, and in every other respect at least just as good? "The long survival of an error does not justify its continued perpetuation after detection," says Dr. E. Coues (Check List, 2d ed., p. 24); and that is precisely my opinion, too.

The American reviewer thinks that a law as above is but just, as these early authors, whose nomenclature is forgotten, have not taken "the trouble to make good their title in due time." But whose fault is it that the names have been temporarily

* Not to speak of *Hydrochelidon lariformis*, which for other reasons is rejected in my paper.

out of use, theirs who died long ago, or that of writers of succeeding generations who have forgotten them? I think that every ornithologist is the heir of those authors, and has the right of claiming that justice be done to them. I confess, however, that I claim this justice not so much for the sake of the justice itself, or for the 'few departed greatnesses,' but simply because I feel convinced that this justice tends to the benefit of the science, and that the oldest name at last will be recognized, in spite of all efforts to keep it down. I am in this respect very fortunate in agreeing with Dr. Coues, who, in a reply to Mr. Allen about the restitution ('Fasti Ornithologiæ Redivivi,' in Proc. Phil. Acad., 1875, p. 338) of Bartram's names (of 1791)* says: "Mr. Allen inquires with some warmth, whether this sort of thing 'tends to the best interest of science.' It may or may not, I reply, but I believe it does, and that time will show it does. At any rate, the reason Mr. Allen adduces for his belief that it does not is not a sound one. He says, 'If the example Dr. Coues is here setting be followed, there will be no stability to our nomenclature for a long time, but only, except perhaps to a few experts, the most perplexing confusion.' *But I contend that the only possible road to stable nomenclature is that which leads to the very bottom of the matter.* In the nature of the case, the process of striking bed-rock is desultory, uncertain and confusing; I admit, as I deplore, the inconvenience and the difficulty. But a fact is no less a fact because it is a disagreeable one; and whether we like it or not, *the fact remains that names of species will continue to shift until the oldest one that is tenable according to rule is recognized.*[†] Therefore the sooner a species is hunted down, the better; .... To speak my mind freely, I may add that I should have been disappointed, considering that I had signally failed, had not my paper made some disturbance; exactly that effect was anticipated and fully intended, otherwise the paper would not have shown *raison d'être.* I am encouraged further to believe that the paper took its own step, however short, in the right

* American Naturalist, X, 1876, pp. 100-101.

[† Mr. Allen's criticism, as the whole tenor of his article clearly shows, was directed not against necessary changes in nomenclature, nor against the rule of priority, or any other approved canon of nomenclature, but against the acceptance of names having no scientific basis, as was the case with most of the proposed restorations from Bartram. In his rejoinder to Dr. Coues he says: "The point at issue is not whether Bartram's identifiable, described, and binomially named species are entitled to recognition, for no one would be foolish enough to deny that" (Amer. Nat., X, p. 176).—J. A. A.]

direction, by the recollection that certain *Fasti* of my honored predecessor in his particular line of work, whose title I have had the presumption to revive, were received with wry faces and shrugs—and received, nevertheless. I am perfectly satisfied to let my own be tested in the crucible of time." His words are written as out of my own heart, and fit my case like a glove. Dr. Coues's innovations were also met with wry faces and shrugs —and received nevertheless, and this I trust will be the fate of my 'innovations' too.

Lastly, my esteemed critic asks if I have "in all cases taken up names which rest upon diagnoses," and further, if "indication of a type species makes a generic name valid."

As all the proposed changes of the specific names rest upon descriptions, most of them being for the time even very good, both the above questions refer to the generic appellations. As the second question is the more comprehensive, I take it first, and say that, at the present time at least, it is the usually followed rule to allow generic names, even if without diagnosis, when only their type can be ascertained. I could mention plenty of examples from Dr. Coues's latest check-list, Ridgway's list, Dresser's list, British Ornithologists' Union's list, and probably from the greater part of authors. From the last mentioned list I will only cite one example, *Erithacus* Cuv., 1799-1800, as it is an exact counterpart of one of the least approved of my proposals, viz., *Urinator* Cuv. Not less opposition will meet the proposed substitution of Forster's names of the Swallows for those of Boie. But *both of them, Boie as well as Forster*, give only types, no descriptions or diagnoses. It will in this connection be well to remember that in fact almost all of Boie's genera rest only upon mention of the types without descriptions, and so do Brehm's in 'Isis,' 1828; so do a great part of Bonaparte's, Reichenbach's, and Gray's genera, besides plenty of others. Practically we may say the same about Kaup's genera of 1829, and, in fact, about those of most of the old writers, as their diagnoses of the genera—as well as Linnæus's—for a great part would be completely unrecognizable if not accompanied by typical species. I think that the question about the validity of genera has got the best answer in the fact that it in most cases, especially among the older authors, is easier to determine the identity of a genus name with type species only, than with diagnosis only.

Turning to my English reviewer, I want especially to call attention to the fact that there are many points in ornithological nomenclature wherein the English naturalists are compelled to disagree with a great many zoölogists, especially with those of North America, who, with only few exceptions, take Linnæus's 10th edition for their nomenclatural starting-point, while the former still strictly adhere to the 12th edition.

But there are two points in the 'Ibis' review which can be discussed with advantage, as they have nothing to do with the vexed question about the two Linnæan editions. In a foot-note the editors give their reasons why they feel justified in continuing the use of the universally adopted *Plectrophanes* for *Emberiza nivalis*, and not accepting for the latter the term *Plectrophenax* proposed by me. They say: "Although it is quite true that, in the preface to his Vögel Liv- und Esthland (1815), Meyer casually mentioned the term *Plectrophanes* as applicable to *Fringilla lapponica* ONLY, we find, on reference to the 'Zusätze u. Bericht. zu Meyer und Wolf's Taschenbuch,' 1822 (in which the genus was first properly characterized), that *Plectrophanes* was intended to include both *Fringilla lapponica* and *Emberiza nivalis*."

When Bechstein, in 1803, created the division *Calcarius* (a term also used by him in 1807, in the 2d edit. of his 'Gemeinn. Naturg. Deutschl.,' III, p. 245) he considered *lapponicus* and *nivalis* generically distinct. He included the former under *Calcarius*, for which genus *lapponicus* consequently is the type.* In his later books he followed the same practice. In 1810 Meyer and Wolf strictly followed the example of Bechstein, separating *lapponicus* from the body of the genus *Fringilla* as a separate 'family,' as they called it, still leaving *nivalis* under *Emberiza*. In 1815 Meyer, however, recognized *lapponicus* as a separate genus in the most binding words: "gehört keineswegs zu der Gattung Fringilla, sondern muss eine eigene Gattung bilden; ich nenne sie Plectrophanes, Sporner"; but he treats *nivalis* under *Emberiza*, *thus evidently showing that* Plectrophanes *was* NOT *intended to include both* lapponica *and* nivalis, as the Editors of 'The Ibis' state. It is moreover not correct to say that the genus was not properly characterized before 1822. Bechstein had already 'properly characterized' *Calcarius* in 1803, and we have seen that there cannot be the

* Authors regarding *nivalis* as being congeneric with *lapponicus* will therefore have to adopt the combination *Calcarius nivalis* (Lin.).

slightest doubt that *Plectrophanes* of 1815 is an unconditional synonym of *Calcarius*, 1803. In 1822, Meyer first included *nivalis* in the genus originally created for *lapponicus;* he still used *Plectrophanes*, although he of course knew Bechstein's name very well; but Meyer and the ornithologists of that date were not very scrupulous in that respect, changing old names very often only for the reason that they did not seem appropriate enough. However, the type of the genus *Plectrophanes* of 1822 is still *lapponicus*, and no interpretation can ever prove the contrary. Kaup, in 1829, first made *nivalis* the type of his *Plectrophanes*. We have here before us a case exceptionally clear; we have either to accept a new name, my *Plectrophenax*, or TO VIOLENTLY CHANGE THE TYPE OF A GENUS AGAINST OUR BETTER KNOWLEDGE. But where are we going if such a thing be allowed?

The critic in 'The Ibis' says that "excellent reasons may be found for rejecting *any* terms given by Schäffer, Gunnerus (!), and Hasselquist." The latter, of course, is not acceptable to ornithologists starting from 1766, but I am quite unable to see the "excellent reasons for excluding the other two, especially Gunnerus."(!)

I repeat what I said about Gunnerus, viz., that he wrote after 1766; he was a strict binomialist; the language he used for his descriptions was Latin; his descriptions and diagnoses are clear and well defined; he was at the time a man of high scientific standing, and recognized as a first-class naturalist; his different writings were well known and well studied by his contemporaries; and, finally, his botanical names are accepted and generally used in modern botany. I ask once more, Where are the 'excellent reasons' for his exclusion?

The same remarks are for the greater part applicable to Schäffer also. As examples of his diagnoses I quote those accompanying the names proposed by me to be revived.

One page 52 of his 'Museum Ornithologicum'* we find:—

* The full title of this book is: Museum | ornithologicum | exhibens | envmerationem et descriptionem | avivm | qvas | nova prorsus ratione sibi paratas | in museo svo | asservat | D. Jacobus Christianus Schaeffer | eccl. ev. Ratiob. past. superint. et ven. consist. ass. primar. | ser. et pot. regi Dan. Norv. a consiliis et professor. | Acad. imp. natvr. cvr. Petr. Lond. Berol. Upsal. Rob. Monac. et Mauntr. | soc. hist. Goett. bot. flor. patr. Svec. phys. Lond. Goth | soc. oecon. Cell. Bern. Lvs. Styr. Bvrgh. Lips. et plvr. Tevt. membrum | acad. scient. Paris. a litterarum commercio. | — | LII tabulae aevi incisae et coloribus distinctae. | — | Ratisbonae MDCCLXXIXX.

"168. *Tringa Merula.* Le Merle-d'eau. **Wasseramsel.**

Tringa superne fusco-nigricans; genis, gutture, collo inferiore et pectore niveis; ventre supremo fusco-rufescente, imo ventre, rectricibusque nigricantibus.

Mus. Schaeffer. No. 68.

Briss. Av. V. 252. 19. Le Merle d'eau.

Linn. S. N. 12. 290. 5. Sturnus cinclus.

Scop. Bemerk. n. 223. **Die Wasseramsel.**"

On p. 49 of the same work we find: —

"161. *Vanellus capella.* Le Vanneau. **Gybitz.**

Vanellus cristatus, superne viridi aureus, inferne albus; capite superiore nigro-viridante; crista nigra; taenia infra oculos nigricante; gutture albo; collo inferiore nigro viridante, pennis in apice albo fimbriatis; rectricibus decem intermediis prima medietate candidis, altera nigris, apice albido marginatis, utrinque extima candida, macula nigra interius insignata.

Mus. Schaeffer. No. 7.

Briss. Av. V. 94. I t. 8. f. 1. Le Vanneau.

Linn. S. N. 12. 248.2. Tringa Vanellus.

Frisch. Av. 213. Vanellus. **Kywitz.**

Schaeff. Orn. t. 69.

Naturf. XIII, St. p. 215. n. 122. **Der Kiebitz.**

Scop. **Bemerk.** n. 141. **Der Kybitz.**"

Washington, D. C., December 7, 1883.

A SECOND SEASON IN TEXAS.*

BY NATHAN CLIFFORD BROWN.

IN the winter of 1882-1883, the writer made a second visit to the village of Boerne, in Southwestern Texas, and devoted the ten weeks subsequent to January 27, 1883, to field work amongst the birds of the vicinity. Throughout this period the country presented an appearance very different from that familiar in 1880: instead of desolate expanses of bare earth, a green sward was almost everywhere to be seen; in the fields were rank growths of frost-killed weeds; and along the creek were patches of coarse grasses and even occasional little sedgy morasses. The creek itself, which during the season of 1880 only at long intervals accumulated a sufficient volume of water to flow with an

* See Bull. Nutt. Orn. Club, Vol. VII, pp. 33-42.

uninterrupted current, was a constant and respectable stream. Both from the severity of the cold and from its continuousness, the winter was extremely rigorous; the mercury ranged between 20° and 25° with unpleasant frequency, and once fell so low as 10°.

Under circumstances so different, it is to be expected that there should be a difference in the results of the work of the two seasons. As a matter of fact, variation in manner of occurrence is apparent in the case of almost every species. The aggregate of individuals was much greater in 1883, the increase in numbers being, except in a few cases, proportionate. The most prominent exceptions were *Zonotrichia gambeli intermedia*, *Dendræca coronata*, *Dendræca chrysoparia* (three specimens), *Helminthophila celata*, *Eremophila alpestris chrysolæma*, *Anthus ludovicianus* and *Sialia arctica*, which were decidedly less numerous; and *Certhia familiaris rufa*, *Salpinctes obsoletus*, *Neocorys spraguii*, *Dendræca blackburnæ*, *Vireo atricapillus*, *Siurus motacilla*, *Stelgidopteryx serripennis*, *Rhyncophanes maccowni*, *Spizella breweri*, *Calamospiza bicolor*, *Podasocys montanus*, and *Plotus anhinga*, of which nothing was seen.

Melospiza lincolni and *Chondestes grammica* were abundant winter residents in 1883; in 1880 the former figured only as a migrant, the latter as a migrant occasionally occurring in winter.

The following additional species and varieties were detected in 1883:—

1. **Hylocichla unalascæ pallasi** (*Cab.*) *Ridg.* HERMIT THRUSH.—A specimen taken, March 16, from a small flock of apparently the same race. Examples approaching var. *auduboni* were taken at intervals.*

2. **Sialia mexicana** *Swainson.* CALIFORNIAN BLUEBIRD.—On January 28, half-a-dozen Bluebirds appeared in a field adjoining the hotel. Their restlessness and peculiar behavior led me to sally out in pursuit of a specimen, which I secured with some difficulty. It proved to be a female of the present species. The rest of the birds flew away, at the report of my gun, and nothing further was seen of their kind until the afternoon of March 1. At this date I was collecting among the Balcones Hills, a few miles from Boerne, in a section of country covered with a sparse growth of live-oak. My attention being attracted by a faint twittering over my head, I looked upward and beheld eight or ten Bluebirds descending almost perpendicularly, as if from a great height. As before, they proved restless and shy, and, after a single discharge of my gun, which secured a handsome male, they left the vicinity.

* See note on var. *auduboni*, Bull. Nutt. Orn. Club, Vol. VII, p. 127.

The Californian Bluebird does not appear to have been met with in Texas before, and I find but one record of its occurrence so far east as the ninety-ninth meridian, in the United States at large.*

3. **Lanivireo solitarius** (*Vieill.*) *Bd.* SOLITARY VIREO.—One specimen (♀), procured from a company of Chickadees, Kinglets, and other small birds, in a post-oak grove, February 3. The testimony of all collectors in Texas indicates the rarity of this species in the State. So far as I am aware, it has not hitherto been detected in winter.

4. **Zonotrichia albicollis** (*Gm.*) *Bp.* WHITE-THROATED SPARROW.—One specimen taken, March 9; others seen upon March 30 and April 6. Boerne is far to the south and west of the ordinary habitat of this Sparrow, which has not before been taken in Texas limits and but once attributed to the State. Dr. Merrill states † that he heard its unmistakable song at Fort Brown, on May 11, 1877.

5. **Spizella socialis** (*nec arizonæ*) (*Wils.*) *Bp.* CHIPPING SPARROW.—Apparently common. Several taken.

6. **Pyrrhuloxia sinuata** *Bon.* TEXAS CARDINAL.—Two specimens—a female, February 2, and a male, April 5—procured in bushes along the creek. These captures considerably extend the known range of the species in the State, but few examples having been noted north of the Rio Grande valley.

7. **Tyrannus carolinensis** (*Linn.*) *Temm.* KINGBIRD.—One specimen, April 4.

8. **Sayornis sayi** (*Bon.*) *Baird.* SAY'S PEWEE.—On the morning of February 5, during the prevalence of a severe norther, several of this species, accompanied by other birds, were found under the lee of a stone-wall, near the creek, and one was secured. On the following day a solitary individual was seen and obtained. Both birds were much emaciated.

9. **Picus pubescens** *Linn.* DOWNY WOODPECKER.—A single specimen, February 3.

10. **Circus hudsonius** (*Linn.*) *Vieill.* MARSH HAWK.—A female seen on March 16; an adult male on March 27.

11. **Nyctiardea grisea nævia** (*Bodd.*) *Allen.* NIGHT HERON.—An immature female, taken February 2.

12. **Podilymbus podiceps** (*Linn.*) *Lawr.* THICK-BILLED GREBE.—During the latter part of March, several individuals were noted in the Boerne Mill-pond. On March 21, a specimen in winter plumage was killed and presented to me by a local sportsman.

13. **Anas boschas** *Linn.* MALLARD.—Occasionally seen in small flocks or singly.

Of the six species seen but unsatisfactorily identified in 1880, two (*Ictinia subcærulea?* and *Larus*——*?*) were not met with; two (—*Strix nebulosa?* and *Buteo abbreviatus?*) were seen but not secured, and two were identified by capture, viz.:—

* See Hatch, Birds of Minnesota, Ann. Rep. State Geologist, 1880 (?), p. 361.

† Proc. U. S. Nat. Mus., 1878, p. 126.

1. **Trochilus alexandri** *Bourc. & Muls.* BLACK-CHINNED HUMMINGBIRD. — I procured a single male specimen of this diminutive species on April 5. No others were seen during my stay. There is no previous record of the bird's occurrence in Texas other than Mr. Purdie's,* which notes the capture of two examples in Gillespie and San Saba Counties, in April, 1878. The distribution of the species in Arizona and Utah, however, renders it probable that it is not a rare summer resident in the present locality.

2. **Buteo borealis** (*Gm.*) *Vieill.* RED-TAILED HAWK. — Some half-dozen pairs of Red-tailed Hawks were found to be resident in the immediate vicinity of the village. Two fresh eggs were taken on March 22, the nest being placed about forty feet from the ground, in a somewhat swampy growth of hard-wood trees.

The two skins in the collection are intermediate between *borealis* proper and var. *krideri*, and, without specimens of the latter form for comparison, it is somewhat difficult to decide under which name they should be included. Upon the whole, however, they appear most closely allied to *borealis*. The dorsal coloration is not appreciably different from that of Maine examples, and the same is true of the ground-color of the underparts. The streaks upon the throat and abdomen are fewer, narrower, and paler than in the eastern birds, and there are no rufous markings upon the breast. The tail in both of the Texas specimens is of a pale, dull rufous; that of one (♂) is crossed, except upon the central two feathers, where it is only indicated, by the subterminal black band of *borealis;* that of the other (♀) has this band only outlined by obscure and irregular spots.

Mr. Dresser found the Red-tailed Hawk abundant throughout Texas, but it was not met with at all by Mr. Sennett nor by Dr. Nehrling, and Dr. Merrill speaks of having seen only a single pair.

In the collection of 1883, as in that of the former season, are many aberrant specimens, the varietal position of which cannot be definitively fixed but must depend upon the taste of the student. The additional material before me does not seem to require a change of previous identification, except in one instance. I now believe the western form of the Robin (var. *propinqua*) to have been included in my list upon insufficient evidence, all of the specimens from Boerne being nearer *migratoria* proper,† of which some of them are typical.

A very curious lot are the Horned Larks (*Eremophilæ*) from this locality. I am far from satisfied to let them stand as var. *chrysolæma*, but after much study of the specimens and a careful examination of many others from different parts of North Amer-

* See Bull. Nutt. Orn. Club, Vol. IV, p. 60.

† My attention was called to the probability of this fact, at the time a different identification was decided upon, by Mr. William Brewster.

ica, including the entire series of the Smithsonian Institution, I find myself unable to dispose of them in any more satisfactory manner. The creation of a new race appears wholly unjustifiable, owing to the confusion in the literature of the species, the instability of the races at present recognized, and the very great individual variation that prevails amongst birds from the same locality. A final resting-place for the many puzzling specimens from the West will be found only after such a thorough overhauling of the genus *Eremophila* as cannot be based upon existing material.

NOTES ON THE NESTING HABITS OF THE YELLOW-THROATED VIREO (*LANIVIREO FLAVIFRONS*).

BY N. S. GOSS.

On the 9th of May, 1877, I found in the timber near Neosho Falls, Kansas, a nest of this bird (a pendant one, as are all the Vireos' nests I have found) attached to branches of a very small horizontal limb of a large hickory tree, about twenty feet from the ground, and ten feet below the limbs that formed the top of the tree. In the forks of the tree the Cooper's Hawks were nesting, and I discovered the Vireo and its nest in watching the Hawks — or rather the man I had hired to climb the tree to the Hawk's nest. The little bird at first flew off, but on his near approach returned and suffered him to bend the limb towards the tree and cover her with his hand on the nest. The twig was quickly broken and the bird and nest lowered by a line, in a small covered basket taken to collect the eggs of the Hawk. Such manifestations of courage and love, so rare and exceptional, touched me to the heart, and it was hard to make up my mind to rob and kill the bird and her mate, scolding in the tree-top. I can only offer in extenuation that they were the first I had met with in this State, and the *strong* desire to have them in my collection. The nest was made of, and fastened to the limb with, silk-like threads and bits of cotton from plants, fastened together

by saliva and partially covered or dotted over with lichen, and lined with small stems of weeds and grass. The beautiful nest was in plain sight, there being nothing near to hide it from view. It contained three eggs and also one of the Cow Blackbird (*Molothus ater*). One of the eggs was broken by the bird in her struggle to escape from the collector's grasp while in the nest. The color of the eggs was pure white, with a few scattering, small spots of reddish-brown towards the large end. They each measure .79 × .58 of an inch. Four taken from another nest (a full set) measure .78 × .57; .80 × .58; .79 × .58; .78 × .57.

I have since noticed these birds in the woodlands on several occasions, and on the 18th of May, 1883, while strolling along the south bank of the Kansas River, near Topeka, in the timber skirting the stream, I had the pleasure to find a pair of them building a nest in a honey locust, about sixteen feet from the ground, and eight feet from the body of the tree. The nest was fastened to the forks of a small horizontal branch. The frame of the nest appeared to be completed. The birds were busy at work, the female lining the nest with small hair-like stems, the male covering the outside with soft lint-like fibrous strips from plants (these closely resembling the limb and its surroundings), and dotting it over with lichen. Happy in the thought that he was not only beautifying the home of his lady bird, but protecting her from view by his artistic skill (notwithstanding the fact that she had selected an open and exposed position), he could not refrain from expressing his joy at intervals during the work in snatches of his sweetest notes. The female, more watchful, sighted me and gave notice of the intrusion. Quick as thought the birds were away. The male, alighting near the top of an adjoining tree, at once poured forth his song in loudest notes, no doubt thinking that by attracting my attention to him I would lose sight of the nest. Knowing it was now too late for concealment, and that any attempt to hide away would only increase their suspicions and stop or delay the work, I carelessly walked nearer, in order to have a better view, and lay down on my back in an open space. In a short time the female returned, hopped about in the tree, inspected me closely from the lower limbs, and then flew away and returned several times before bringing material or venturing to approach the nest. But the moment she did so, the song of the male ceased and the work of

building was actively resumed. As the female stood upon the top of the nest, with head down and inside, I could not see the manner of arranging the lining; but as she kept walking around upon the rim, I could, in imagination, see her plaiting and weaving in and out the hair-like stems. It was very easy and interesting, however, to see and note the actions of the male, as he deftly worked the material into the framework, running the longer fibrous thread-like strips through and then quickly springing upon the top and fastening them on the inside. Then he would re-arrange the outside, stopping a moment to inspect the work, and then off in search of more material, occasionally warbling a few notes on the way; but he was silent at the nest, while I remained so near.

At the rate their work was progressing, I think the nest would have been completed during the day. I do not know that it is the usual custom for the female to confine her labor to the plain and necessary work, and the male to the decorative and ornamental parts, but it was so in this case. It may be that the time of laying was near at hand, and that the female felt the pressing necessity for the completion of the interior, for, in such cases, I have seen nests of birds enlarged and completed by the males while the females were sitting upon their treasures.

A STUDY OF THE SINGING OF OUR BIRDS.*

BY EUGENE P. BICKNELL.

CONSIDERATION OF SPECIES.

Turdus migratorius. ROBIN.

As a general rule our summer song-birds come to us in the spring in full voice; but an exception is often made by the Robin. As a few Robins may be with us all winter, it is not always easy to tell just when the first spring birds come; but the observations of several years clearly show that, as a rule, first arrivals are songless. But singing is rarely delayed after the migration has

* Continued from p. 71.

well begun; and when this has been retarded by untoward weather, and finally starts with full volume, then the advance guard are usually song-bearers. My records show a range of over three weeks in the time of the beginning of song in different years, from February 27 to March 21. Both of these dates are, however, exceptional, and represent the extremes of an early and late season. Usually singing begins during the second week of March.

The Robin continues well in song up to the middle of July, after which there is usually a perceptible decrease in the number of singing birds, and the time of singing becomes more restricted to the marginal hours of the day. My notes of the singing of the Robin in August, though usually extending through the month, rarely form more than a disconnected record. The inclination towards song is now declining, and it depends, during the first part of the month largely, and during the latter part entirely upon favorable conditions, whether there be any song at all. Thus in a season of drought occasional brief songs in the early hours on favorable days, with intervals of silence, may fill out the record of the month, whereas a reasonably consecutive record will result from a cool and wet season.

September is eminently their month of silence. Their primary song-period may extend feebly beyond the end of August, and rarely an imperfect song may be heard in the following month, but until its latter days silence, excepting the ordinary call notes, is the general rule.

The secondary song-period is introduced with much regularity in different years in the last days of September. From 1878-81, my record runs: September 27, 26, 28, 25. But unfavorable weather may postpone the beginning of the second song-period until October. The first songs are usually subdued and broken, but soon acquire the normal character, and sometimes continue with little interruption through the month of October; but again there may be an almost complete intermission between the first or second and final week of the month. Sometimes when this is the case, multitudes of the birds arrive from the north about the third quarter of the month, bringing song with them, and in the last week, if the weather be damp and cloudy, numbers may be heard singing with almost the freshness and vigor which characterises their song in April.

When the vast numbers of Robins which pass southward at this season have departed, the species rapidly becomes uncom-

mon. Dates of last songs fall between October 21 and November 1. In two years I have no record later than the 8th, but it seems not unlikely that in these years transient final days of song were missed. It is, however, not improbable that, if subsequent to the beginning of autumn song the weather should prove unfavorable, the second song-period may be allowed to lapse.

Through the latter part of August many Robins may be seen flying about, minus remiges and rectrices, in varying number. Adults of both sexes taken in the second week of October have the new plumage perfected with the exception of some of the smaller feathers.

Turdus mustelinus. Wood Thrush.

This most admirable song-bird is in voice from its arrival, in late April or early May, until about the middle of August. But towards the end of July singing becomes less universal with members of the species, and soon after has come to be inconstant and confined to the earlier and later hours of the day. Songs are usually to be heard through the first week of August, and sometimes for a week later (August 6-15), when singing somewhat abruptly ceases, seven or eight weeks before the final departure of the species.*

After the cessation of singing these Thrushes become shy and inactive, affecting the most retired parts of the woods, and only the careful observer will discover that they have not disappeared. Even their call-notes almost have been discontinued, and when heard are so low in tone and so brief as almost to seem as if accidentally uttered. Before their departure, however, though they do not again sing, voice is partially regained; and in October, even so late as the middle, or rarely last of the month, their call-notes may sometimes be heard uttered with the same vehemence as in the spring.

The suspension of song by this bird during two months preceding its departure can be accounted for, according to the probabilities earlier adduced, by physiological activities antagonistic to song operating during that time. In late August adults are

*An exceptionally late date for song is August 23, 1883. On that day I for some minutes listened to the singing of a Wood Thrush which was of a very unusual character. Though all the notes of the normal song were given, they were so faintly uttered and separated by such distinct pauses, as to make it seem probable that they resulted from the first trial of a young bird.

covered with growing feathers and without fat. In mid-September some, at least, show a nearly perfected plumage, with areas of fat beginning to accumulate; and individuals may be found almost a month later with the renewal of plumage still incomplete; such, perhaps, are birds of the year. It would appear from these facts that the impulse to song is first interrupted by the moult, and further suppressed by the supervening adipose condition.

Turdus fuscescens. WILSON'S THRUSH.

Contrary to what we find to be true of most of our summer birds, the Wilson's Thrush seems often to remain silent for some days after its arrival in the spring; although this is not invariably the case.

Though it comes to us but little later than the Wood Thrush, its song in some years may not be heard until two weeks after that of the latter bird; and yet we lose it fully a month earlier. With the Wilson's Thrush singing continues regularly through the month of June and into the early part of July, but after this time is not commonly heard, and soon has entirely ceased. For several years dates of final songs have been entered in my books between July 10 and 15; though a single song may sometimes be heard later in the month. July 21, 22, and 26 are the latest dates that I have recorded. Often in the first, or even second week of July, though singing is so soon to cease, the vocal impulse seems to be at its height, and our thick swamps and low woods sound with the continually reiterated songs of numbers of these fine-voiced Thrushes. These birds are so much oftener heard than seen that after they have become silent they are not often observed: but not until the end of September have they all left us.

By the end of August the plumage has been renewed and the birds are very fat. But specimens may be taken at this time, and, indeed, through September, showing a slight activity of feather-growth.

Turdus ustulatus swainsoni. OLIVE-BACKED THRUSH.

This Thrush is in full song during its spring migration, which occupies the latter half or two-thirds of May, but is commonly

silent in the autumn. It is, however, probable that singing may occasionally be indulged in that season, for I was assured by one who was familiar with the song of the species, that several were heard singing at Bay Ridge, Long Island, September 26, 1880, at the height of their migration.

On their arrival in September the new plumage has not always completed its growth. In many specimens growing feathers are scattered over the body, and often some of the remiges have their bases still soft, or even sheathed by the matrix of the feather. When the birds first appear they have begun to develop adipose tissue, and it is not long before they become excessively fat.

Turdus aliciæ. GRAY-CHEEKED THRUSH.

To this species almost the same remarks apply as to the last-mentioned, except that it appears disposed to tarry a little longer in the spring; consequently its song may sometimes be heard a few days later. It is occasionally in song with us through the first week of June,—that is, I have heard it up to June 4.

I am well satisfied that the songs of the Gray-cheeked and Olive-backed Thrushes are not alike; in fact that they are as distinct from one another as from the songs of the other small Thrushes.

During recent seasons particular attention was paid to the songs of these birds, and a clear difference between the songs of individuals of each proved to be constant, so far as limited observation went. As a result of my experience with these birds, I have little hesitation in characterizing the song of the Gray-cheeked Thrush as weaker than that of the Olive-backed, entirely dissimilar in tone, and with a somewhat different disposition of the notes. Instead of musically outbursting, it is singularly subdued, and has a far-away and rather ventriloquial sound. It seems more the expression of some distant emotion revived in memory than of a suddenly felt present emotion which the song of the Olive-backed Thrush suggests.

The song of the latter bird is louder, more spontaneous and lyrical. Almost the first note is the loudest and most liquid, after which the melody becomes rapidly fainter, seeming to dissolve upon the air like the spent vibrations of a stringed instrument.

The song of the Gray-cheeked Thrush commences low and reaches its loudest, and I think its highest, part a little beyond half its continuance. It is throughout much fainter and of less forcible delivery than the song of the Olive-backed species.

Turdus nanus. HERMIT THRUSH.

Though this little Thrush is always to be found with us during its migrations, it was only after some years of observation that I discovered that it ever sang near the sea-coast in this latitude. Either it is very furtive-voiced while it is with us, or singing is exceptional. Twice only have I heard its song away from its summer home,—on April 26, 1878, and April 29, 1879. In both cases the songs were faint and of an unfinished character, and positive identification only satisfied me that they were of this species. It is probable that this Thrush sings occasionally in the autumn; for there is little doubt that I heard it on October 18, 1880. It was in the dusk of the early morning, and the song, though several times repeated, was not clearly heard. It was, however, from a *Hylocichla*, and sounded most like that of the Hermit Thrush, the only one of the smaller Thrushes which was present at the time in any numbers.

The call-note of the Hermit Thrush is very different from that of any other species of its group which occurs with us. It is a low *chuck*, suggestive of the note of a distant Blackbird. The Hermit Thrush possesses the singular habit of demurely raising its tail and allowing it to fall back slowly to its natural position; this strange movement recurs at intervals and often follows the act of perching. Does it bear any relation to the characteristic caudal activity of the Water-thrushes and some of the Warblers?

Mimus polyglottus. MOCKINGBIRD.

I observed a Mockingbird by the Harlem River on October 10, 1880, my attention being attracted to it by a few notes of its song, which would doubtless have been continued had not the bird been startled. The species is of casual occurrence in the locality of my observations, but on no other occasion have I heard any sound from it save a sharp alarm note.

Mimus carolinensis. CATBIRD.

The Catbird sings from its arrival — late April or early May — through July, but with decreasing regularity towards the end of the month; and in one or two years I have not heard it later. Usually singing is abandoned shortly after the beginning of August, but sometimes individuals continue in song quite to the middle of the month.

Though the species remains well into October, and is sometimes to be numbered among the loiterers of the following month, during all this time no music escapes it. Careless and extravagant with his powers when they are in easy possession, this talented musician has lost them at a time when they would be most appreciated, and naturally less capable performers succeed it.

Besides its song, and the well-known call-note that has conferred its name, the Catbird has another characteristic vocal accomplishment — a short, sharp, crackling sound, like the snapping of small fagots. This is not often heard before the dog-days, but in late summer is sometimes frequent. Usually it is an accompaniment of rapid action as the bird seeks the security of some bushy patch or darts into the thick cover along the road.

Harporhynchus rufus. BROWN THRUSH.

The singing-season of this species, beginning with its arrival in April, scarcely lasts through the first week of July, though isolated dates of the singing of single birds extend almost to the end of the month. In my records I find no series of reasonably uninterrupted dates continuing later than the first third of July, but in different years single birds in full song have been heard from the 18th to the 26th of that month. Thus in one year a perfect song on July 18 was the first heard since the 5th, and in another year songs on the 6th and 10th were the last heard except one on the 20th. This mis-timed singing must result either from abnormal variation in the singing-time or mere individual caprice.

The species appears not to possess a second song-period; but on September 8, 1881. I heard a few song-notes uttered by one of several birds which were regaling themselves on the fruit of a large gum tree (*Nyssa*).

Sialia sialis. BLUEBIRD.

This beautiful and domestic species evinces a most impressionable temperament, which responds with song to the faintest suggestion of returning spring, and with silence to the earliest foretastes of the sultriness and heat of summer. Its melody is the first that comes to us with the new year, and is of those which we earliest lose. So sensitive, indeed, is the Bluebird to the slightest vernal influence that its cheerful warbling is often sadly out of season, as when it is called forth by a mild, suggestive day in January, or even in December.

It might appear to be an open question whether these midwinter songs are those concluding autumn singing or those inaugurating the musical celebration of the spring. The truth is that they result from the over-strained imaginations of too eager lovers; and thus we get spring songs before the winter solstice.

Within the last seven years the dates of introductory songs have ranged between December 18 and February 10. According to the character of the winter, continued song may date directly from its introduction or be delayed, with occasional efforts occupying the interim, until spring becomes more assertive; but singing seems rarely or never to be postponed beyond the final winter month.

March is pre-eminently the month of song. Before April has ended their ardor has perceptibly waned, a change which progresses through May; and sometimes in this, as in the following month, singing is so infrequent that often it seems to be suspended, as it actually is in July. Sometimes no song will be heard in this month; again, isolated songs occur almost to its close.

I do not find that I have any record of the Bluebird singing in August; but undoubtedly its song is to be heard in every month of the year. From early July until about mid-September is a time of general silence; sometimes this is broken in the first week of September, sometimes not until the last of the month.

Singing seems to be rather inconstant in the fall, but usually after the second week of September the cheerful warbling that we have missed since June may occasionally again be heard until the end of the following month. But I have no November record.

Regulus calendula. RUBY-CROWNED KINGLET.

This little bird sings regularly while it is with us in the spring and fall. In spring its song dates from its first arrival (earliest record, April 7), and is frequent until the majority of the birds have passed northward. Shortly after it has last been heard (latest record, May 1), the species has disappeared; but sometimes the last song gives the last record of its presence.

After their re-appearance in September these birds usually remain silent for a week or more — in a few instances I have heard the song on the day of arrival — after which their song may be heard at any time before the final days of their stay. Autumnal data of their singing are comprised between September 20 and October 21. If, however, the species be uncommon the song may not be heard at all in the latter month.

Though the smallest of our song-birds, and—excepting the Hummer and its own near relative, the Golden-crowned Kinglet—the least of all the birds that visit us, the Ruby-crowned Kinglet possesses marked vocal power. Its clearly whistled and cheerfully modulated warble would not be a discreditable performance from a much larger bird.

Its ordinary notes are short and sharp, and though not loud may, under the influence of excitement, be prolonged into a harsh Wren-like chatter.

Regulus satrapa. GOLDEN-CROWNED KINGLET.

Although this species has been accredited with decided musical ability, I have never heard from it a closer approach to song than a faint chirping, interspersed with weak, tremulous notes. These, however, though never to be mistaken for song, are not wholly devoid of melody, and are at times pleasantly tintinabulous. These notes are the bird's chief vocal expression while it is with us in fall, winter, and spring, and differ greatly from the quick stridulous call-notes of its ruby-crowned relative.

Lophophanes bicolor. TUFTED TITMOUSE.

I have already given the only facts that I have acquired regarding the singing with us of this species (it being in full song in March), in recording the only instances known to me of its occurrence (Bull. N. O. C., III, No. 3, p. 129, July, 1878).

Parus atricapillus. BLACK-CAPPED CHICKADEE.

My data on the vocalization of this bird are not sufficiently full to enable me to determine whether any of its notes pertain exclusively to a particular time of the year. The ordinary notes, which have conferred the name 'Chick-a-dee,' are, however, characteristic of no season, but may be heard through every month. Another vocal attribute of the species is a clear, double-syllabled whistle. This suggests the song of the Wood Pewee, but there is no true similarity between the notes of the two birds. I have no record of having heard these notes of the Chickadee in the late fall, or in the winter before the vernal influence had begun to assert itself. From such time onward, into and often through the summer, the whistling notes may be occasionally heard, but they seem never to be very constantly uttered through any season, even though the birds may be continually near us. In February, and in October, I have heard them (February 12 to October 14), and in all the intervening months. The species has also a short run of low, musically modulated notes, in fact, a short warble. This is to be heard at the same seasons as the whistling, and probably both are true song notes.

Both adult and young are in full moult in August, though with many individuals the growth of feathers does not cease until December. Through all this time the birds develop little fat, and I have found them through the winter with almost no adipose protection.

Sitta carolinensis. WHITE-BELLIED NUTHATCH.

The first positive suggestions of awakening spring are often sufficient to entice this bird into song, such as its song is — a running repetition of a single note. But the result is nevertheless agreeable, the notes possessing a mellow or resonant quality, and, at a season when few birds are to be heard, is a conspicuous and characteristic sound. The bird's eagerness sometimes leads it to place confidence in a January thaw, when its song-notes may sometimes be heard; but these premature beginnings are usually followed by many dreary days of silence. December 22, 1882, and January 11, in the mild winter of 1880, are the earliest dates I have for the first song. On the latter occasion the performer had partially emerged from the entrance of an old Woodpeck-

er's nest, and not improbably had been influenced by the suggestions of the situation. I have several times noticed Bluebirds in song at unusual times while engaged in inspecting retrospective or prospective homes.

Though with the Nuthatches singing may not be fully instituted until the latter part of February, individuals are usually to be heard on fine days about the middle of the month, even if the preceding weather should have been severe.

This species is not constantly abundant with us, and at times seems to be altogether wanting, so that absence of song may imply silence only in the sense of there being no birds to sing. The species was abundant in the season of 1879, which was of normal character, and may thus be taken as a representative one. Full song was first heard February 16, and again March 2, after which singing was constant to the middle of the month, thence decreasing towards the end. In April and May, song-notes were heard on several separated dates, extending through the former month, and up to the 11th day of the latter. These appeared to conclude the season of song; but on several days of early July brief song-notes were heard. Similar apparently exceptional dates were recorded in another year, and a close approach to the true song-notes was once heard on July 23. It is probable that these late notes were from the parents of delayed broods. I have no record of the song-notes for a later period of the year, and in some years I have not heard them later than March. The usual call notes are a nasal '*Yank-Yank.*'

I find the Nuthatch all through the winter almost without fat. When fat is present it is of a clear, pale sulphur color, while that of the Red-bellied Nuthatch is more opaque and of a deep orange-yellow.

Sitta canadensis. RED-BELLIED NUTHATCH.

The drawling call-notes of this species are the only sounds I have heard from it. They are frequently uttered while the bird is with us.

Certhia familiaris rufa. BROWN CREEPER.

Some feeble notes, suggestive of those of *Regulus satrapa*, are this bird's usual utterance during its visit. Its song I have never heard.

Thryothorus ludovicianus. CAROLINA WREN.

This species is of too irregular occurrence to afford the requisite data for a knowledge of its habits of song during the entire year. I have, however, heard its full song in April, May (June 24?) and August.

Troglodytes aëdon. HOUSE WREN.

From its arrival late in April until after midsummer the full song of the House Wren is to be heard, and, though sometimes ending with July, it is often continued through the first week of August. August 15 is my latest date for the true nuptial song. Usually before this time, when singing continues so late, the song begins to change, and, becoming increasingly weaker and less defined, may be extended beyond the middle of the month. With the change of song a change of habits begins, and likewise gradually progresses. The birds forsake the vicinity of dwellings and their accessory buildings, of which for more than three months they have been familiar and self-assertive occupants. To the lay observer they have disappeared, but the experienced eye will detect them inhabiting the rocks and shrubbery of wild and unfrequented localities, often remote from human habitation. In such places the autumn song is to be heard, though to one familiar only with the characteristic song of the earlier season its authorship would hardly be suspected. It has none of the spontaneity and vigor of the spring song, but is a low, rambling warble. I have listened certainly a full minute while it continued without interruption. An approach to this song may sometimes be heard when the species is becoming silent in August, as I have already stated; while in September a decided reversion towards the spring song is sometimes noticeable.

Although the bird regularly sings in the autumn, at this season its subdued song and retiring disposition render it easily overlooked; so that absence of records of song in the autumn at a time when observation in other years has shown the bird to sing, cannot be taken as a guarantee of silence, as it could be in the case of a more conspicuous species. The precise limits of the autumn song-period I have not yet been able clearly to define, but it may be said in general terms that singing begins early in September, continuing through this month and sometimes into

October. Extreme dates are August 24 and October 7; more usual limits would fall in the first and fourth weeks of September. In several years I have noted imperfect songs in the fourth week of August, about midway between the two seasons of song. These seemingly misplaced songs I have usually considered as appertaining to the song-period from which they were separated by the least interval of time. But they may be wholly aberrant; or the two song-periods may sometimes be connected; or perhaps in some years the first song-period is prolonged and the second does not occur; for in more than one instance I have noticed that an undue extension of the first song-period seems to be at the expense of the second. Either of these suppositions could be supported by my records of certain years, but recalling the likelihood of the bird to be overlooked in the autumn, we find ourselves justified in no conclusions without more extended data.

How far birds of the year enter into the subject of change of song in the autumn with this species cannot at present be said; but a male bird shot while singing on September 1, 1880, was in fine plumage and bore every indication of being fully adult. I find this species in the autumn without much fat, and with feather-growth continuing slightly into October.

Anorthura troglodytes hiemalis. WINTER WREN.

A silent migrant with respect to song, though often amply noisy with its ordinary notes, the movement of which fitly corresponds with the excited bobbing of the little brown-plumaged body from which they proceed. Once only have I heard its song in this latitude — on November 21, 1880, a cold and wintry although still morning. The song was three times repeated, and though brief was sufficiently perfect to bring to mind the summer home of its author in mountain forests northward. In winter I have found dark yellow fat encasing its small body.

Telmatodytes palustris. LONG-BILLED MARSH WREN.

There seems to be an irregularity about the singing of this bird in the late summer and fall which requires for full explanation more complete data than my records afford. The first song-period normally ends early in August, dates of final songs in six

years falling between July 31 and August 13. But sometimes a song will be heard late in the month, as in 1878, when a song on August 28 was the only one heard since the 7th, although observations had been continued in the interim.

In 1879 observations failed to detect any singing during August, but on September 7 a song was heard, which was the last. In 1880 the case was still different, isolated songs being scattered along through August till the 22d, after which none were heard until, on October 3, several birds were observed in fine plumage and full song. Were it not for the latter observation, we might be disposed to conclude from our data that with this species a second song-period, in late August or early September—some three or four weeks after the first—was indicated but not well established. But the fact of several birds being in full song on one occasion so late as October, when they were about to leave us, leads us to suspect that the true second song-period of the species may occur subsequent to its departure. Toward the close of its vocal season this species sometimes sings in a low uncertain way, after the manner of the House Wren.

Cistothorus stellaris. SHORT-BILLED MARSH WREN.

The scarcity and local distribution of this Wren has prevented the acquirement of data sufficiently numerous for defining its periods of song. Two periods, however, are indicated; one ending before the close of August, the other beginning about a month later and continuing at favorable times until the bird's departure. One of these Wrens was heard in full song almost daily between August 12 and 21, 1881, but nothing was afterward heard from the species until September 18. At this date the songs lacked the vigor and definition of those of a month earlier, but were more prolonged. This change was carried a step farther in the songs of an individual taken September 22, 1878. I have no record of songs between this date and October 23. In 1880, on the latter date (a late one for the species), one was taken while singing, but the song was so subdued and rambling as scarcely to be recognizable. Thus three at least of our Wrens show the same character of variation in song from spring to fall.

The summer song of this bird normally presents three well defined variations. Such versatility is unusual in a species, the

song of which is of such a definite number of distinct notes. I have heard all three variations successively produced by the same bird, showing them to come within the normal scope of its vocal powers. What appears to be the typical song may be represented thus: *chit, chit, che-che-che-che-che*; and one of the variations thus: *chit, tit, ter-r-r-r-r-t*, the last part with a grating sound. In the former song the notes of the last part are of about half the time of the first; in the variation they are much more rapid. In the third variation they are not so hurried and less harsh.

ORNITHOPHILOLOGICALITIES.

BY PROFESSOR ELLIOTT COUES.

(*Concluded from p. 58.*)

No. 512. *Buteo.* This we gave as the Plinian name, but of doubtful etymology. Mr. Wharton, in the 'Ibis List,' makes it cognate with **βύας**, **βῦζα**, *bubo*, *bŭbĕre*, to cry like a bittern, *bucca*, the cheek, etc.

No. 528. *Urubitinga.* We said that this was a barbarous word of some South American dialect, *urubu* meaning a vulture, but did not know what the rest of the word is. The 'Athenæum' reviewer supplies the desired information, stating that *tinga* is a word of the widely diffused Tupi language, spoken throughout a great part of Brazil, and meaning 'white,' in the sense of 'bright,' and that *urubitinga* is simply 'beautiful vulture.'

No. 532. *Aquila.* This, which we discussed very unsatisfactorily, Mr. Wharton in the 'Ibis List' disposes of without query as from the root of *aquilus*, dark, **ἀχλύς**, mist, **ὠχρός**, sallow. A case like this, where we were groping, is just one in which Professor Merriam might have resolved our doubts, and done good service.

No. 533. *Albicilla.* (See *Motacilla.*) Mr. Wharton says: from **albicula*, dim. of *albus*, white; probably confused with an impossible derivation from a non-existant word, **κίλλος**, a tail. Existant or not as such a word may be, our contention is, that *Haliaëtus albicilla* = white-tailed sea-eagle, and was not intended to mean anything else.

No. 539. *Columba.* We gave this as simply Latin for a pigeon, of unknown etymology. Mr. Wharton says: "probably as if meaning 'dark,' from the root of *caligo* = darkness. But *cf.* Lith. *gulbe* = swan, O. Irish *gall*, with the meaning white. Probably *not* akin to *Colymbus*." We sus-

pect the former of these surmises may be the right one; for if Lat. *columba* is connected with *caligo*, and means 'dark,' the word is brought into correspondence with the Greek name of a pigeon, **πέλεια** or **πελειάς**, from **πέλλος** or **πέλος**, dark-colored, 'livid,' whence *livia* as the name of the Rock Dove.

Nos. 544, 545. *Zenaida*, *Zenaidura*. We had not succeeded in identifying the proper name, until the New York 'Critic' reviewer pointed out that *Zénaïde* is the name of the daughter of Joseph Bonaparte, wife and cousin of Prince C. L. Bonaparte, who dedicated the genus to her under the Latinized form *Zenaida*. From this *Zenaidura* is, as we stated, obviously though somewhat curiously formed by adding *-ura*, from **οὐρά**, tail. Will the next critic of our 'Check List' give us the nationality and pedigree of the word Zénaïde, which must have been a word before it became a proper name?

No. 560. *Urophasianus*. We naïvely took this from **οὐρά** and *phasianus;* but we suspect that we made a great bull in not making a bull instead of a tail out of the first part of the word. So, to take this bull by the tail, we should say that *urophasianus* is probably constructed upon the model of *urogallus*, which word was formed by Gesner from the German *Auerhahn*, where *Auer* = *urus*, the bull described by Cæsar, the *Aurochs;* the implication being the bird's comparative size. The same idea appears in 'bull-frog,' etc. If this be so, *urophasianus* is brought into correspondence with *urogallus*, *Auerhahn*, and also *capercaillie*.

No. 571. *Ortyx*. We gave **ὄρτυξ**, a quail, as related to **ὀρταλίς**, and both as akin to **ὄρνις**, a bird. Wharton, quoting Curtius, makes it from the root of *verto*, I turn, from its whirling flight, and compares Skt. *vartakas*, a quail, *vart*, to roll. Will Professor Merriam decide this point for us?

No. 589. *Hiaticula*. We gave no satisfactory account of this word, merely saying, correctly, that it is an old bird-name, in form a diminutive of *hiatus*. The 'Zoologist' reviewer helps us to the desired explanation, saying: "Charleton, at p. 109 of his 'Onomasticon Zoicon' (1668), says that the name is given to the Ring Plover *quia circa fluminum alveos et rivorum hiatus verseter*, because it haunts the mouths (*hiatus*) of rivers." If now we were asked to say, what is the one most important point made by Professor Merriam in his long excursion into bird-land, we should reply, his quotation from Gaza (1476) showing that *hiaticula* is simply a translation of Aristotle's χαραδριός —'*quasi hiaticula dixeris*'; a point, by the way, already made by Mr. Wharton in the 'Ibis List,' p. 159.

No. 593. *Vanellus*. We wonder that Professor Merriam did not correct us here, where we were all wrong. The 'Zoologist' reviewer takes a fair shot, as follows: "There is a carelessness about deriving *Vanellus* from *vanus* which surprises us in the midst of so much erudition. The old spelling, *Vannellus*, and the French *vanneau*, leave no doubt as to the origin of the word being from the Latin *vannus*, a fan. Charleton (p. 108) already says the name is given *quodualis, instar vanni seu ventilabri, commotis concussisque strepitum edat*"— that is to say, you know, Professor Merriam, because with (its) wings, like unto (or after the manner of) a

fan or winnowing-machine, with commotions and concussions (the bird, understood) makes a noise.

No. 595. *Ostrilegus.* Wharton writes this in the usual form, *ostralegus.* Some say *ostrælegus.* We ventured to emend to *ostrilegus*, citing Vergil's *ostriferus* in our support. Here is a case in which we showed our instinctive appreciation of the 'genius of the Latin tongue'; in his exegesis upon which theme Professor Merriam might have sent us up to the head of the class again, after so sternly reprimanding us for giving out that *atrocristatus* was a fair way of saying 'crested with black' in bird-Latin.*

No. 604. *Phalaropus fulicarius.* See under *Fulica*, No. 686.

No. 606. *Scolopax.* Here is a nugget. We instanced, as the most likely etymon, **σκόλοψ**, a sharp thing, from the shape of the bill; also, as alternative, **σκώλλω**, I scratch, etc. We also adduced **σκώληξ**, a worm. Wharton assents to the bearing of the two former of these upon *Scolopax*, but adds: "But possibly foreign; for other forms, **σκολώπαξ** and **ἀσκαλώπας**, occur." If Professor Merriam will settle *Scolopax*, he will confer a lasting favor upon ornithologists.

No. 620. *Arquatella.* See No. 625.

No. 625. *Subarquatus.* We gave this as an adjective, meaning little or somewhat curved, and as noting the shape of the bill. Wharton says "*subarquata* = a little like a Curlew, *arquata*." It is thus made a noun, synonymous with *arquatella*, and meaning simply 'little curlew.' If *arquata* is a noun (and Wharton so considers it, in writing *Numenius arquata*, not *N. arquatus*), this would seem a proper way of making such a word, or one comformable at least with usage, as in the case of *subbuteo*, *hypotriorchis*, etc. Compare No. 643.

No. 627. *Calidris.* We speculated on this word at some length; Wharton says simply, "Derivation unknown." Will Professor Merriam crack this nut? We fancy that, like *Scolopax*, it is full of meat, if we can only get at it. One of its forms, *Scalidris*, suggests a possible relation or cognation with *Scolopax*; another of its forms, *chalidris*, a possible connection with *charadrius*.

No. 640. *Actiturus.* We must here criticize our friend Wharton, who says "*Actiturus* = with the tail (**οὐρά**) of an *Actitis*." We were certainly right in explaining it as = *Actitis* with a tail, *i. e.*, a long-tailed *Actitis*. Bonaparte modelled the word upon *Actitis*, just as he did *Zenaidura* upon *Zenaida* after establishing the genus *Zenaida* upon his wife's name, *Zénaïde*. But what he meant, was simply a long-tailed *Zenaida* — surely not what would be implied in this case by Mr. Wharton's explanation of *Actiturus*. It is a case like *motacilla*, *albicilla*, *perspicillata*, where the verbally correct etymology furnishes an actually incorrect meaning.

No. 643. *Numenius arquata.* We admit that **νουμήνιος** is the correct word, and that our speculation respecting *numen* is a curiosity. But does Professor Merriam quite fairly reproduce our meaning in quoting us here? By 'ornithologists of the heroic age' we mean those of 1555 *et seq.* And

* An esteemed English correspondent informs us that Prof. J. H. Blasius (if we remember rightly, the letter not being at hand) anticipated us in this emendation.

does our genial critic agree with us that *numenius* is synonymous with *arquata* or *arcuata*? We really believed it to be so; but Mr. Wharton, says: "it more likely refers to *arquatus morbus* = the jaundice ('when the skin turns to the yellow colour of the rainbow'), in allusion to the legend about *Charadrius*, *Galbula*, *Icterus*, etc."

No. 659. *Garzetta.* To our correct statement that this is the Italian name of the corresponding European species, may be added the information given by Wharton, that it is also spelled *Sgarzetta*, as dimin. of *garza* or *sgarza*, a heron.

Nos. 660, 661. *Hydranassa*, *Dichromanassa.* There is a very queer point involved here. We can speak positively, for the latter of these words was a coinage of our own. See 'Ibis,' 1883, p. 224, where the full explanation is given. In our 'Check List,' the *-nassa* is said to be **νᾶσσα** or **νῆσσα**, a water-fowl; so it is, in the case of *Dichromanassa*, that being actually what we had in mind in coining the word. But we meant it to be upon the model of *Hydranassa*, which is compounded of **ἄνασσα**, a queen, Baird's coinage of *Hydranassa* being suggested by Audubon's epithet 'lady of the waters.'

No. 666. *Botaurus.* We queried the reference of this word to bos-taurus. Wharton (l. c.) considers it akin to *bittern*, etc., and "certainly not derived from *bos* + *taurus*, though perhaps confused therewith in popular etymology."

No. 678. *Porzana maruetta.* Italian *porzana*, as we gave; said by Wharton to be also written *Sforzana*, and *Forzane* (latter probably a plural form), and of etym. ignot. Will Professor Merriam enlighten us? *Maruetta* we gave as also Italian, and as said to be equivalent to anything by the sea. Wharton says it is probably not Italian, as it does not occur in Count Salvadori, and that it is Latinized from French *la Marouette.* Will Professor Merriam enlighten us here?

No. 686. *Fulica.* We gave this as good Lat. *fulica*, a coot, same as *fulix*, gen. *fulicis* (said to occur in Cicero), and as related to *fuligo*, soot, from the bird's dark color. Wharton says "akin to **φαλ-ακρός** = bald-headed, and Eng. bald. On this understanding *fulica* would not have anything to do with *fuligo*, but would refer to the frontal shield of Coots. The common bird-name *Phalaropus fulicarius* is in evidence that Wharton is right, the Greek name of the Coot being **ραλαρίς**, from **ραλαρος**. Compare also *Phalacrocorax*, meaning literally 'bald-headed raven.' Will Professor Merriam give an opinion here?

No. 692. *Anser.* Our supposition that *anser* is related more or less radically to *anas* and so to **νᾶσσα**, a duck, probably escaped Professor Merriam's attention. Wharton says (l. c.): "cognate with **χήν**, Skt. *hansas*, Grm. *gans* (our 'gander'), Norse *gaas*, A. S. *gōs* = goose, *gandra* = gander, *ganot* = gannet, Eng. *goose*; originally *hanser.* Probably from the root of **χαίνω**, **χάσκω** = I gape."

No. 699. *Bernicla.* Will not Professor Merriam kindly give us his views on this word? If he will turn to the place, he will see there is possibly an opportunity for him to dispel much gloom.

No. 714. *Querquedula.* Wharton says perhaps from κέρκουρος, a light vessel used by the Cyprians, or from κερκαίρω = I ring (Vaniçek); the latter as we supposed and said. Professor Skeat says the name is from an onomatopœic base, *querq* or *kark*, significative of any loud noise.

No. 719. *Aix* or *Æx.* Though we wrote *Aix*, as the usual form, we distinctly stated our preference for *Æx*, simply not changing the form while in any uncertainty. Wharton (*l. c.*) says *Æx* without hesitation.

No. 728. *Harelda.* We said this was a nonsense-word, invented by Leach. Why does not our critic inform our readers that we were mistaken? For, as the 'Zoologist' reviewer points out, *Harelda* is the Icelandic name of the duck. "*Anas caudacuta Islandica* Harelda *ipsis dicta*," says Willughby (Ornithologia, 1676, p. 290).

No. 739. *Perspicillata.* Of our explanation of this word the 'Zoologist' reviewer, not Professor Merriam, says: "How far astray an etymologist may be led by guessing is comically illustrated by Dr. Coues' derivation of *perspicillata*. The true meaning of the word must be 'covered with looking-glasses,' from *speculum* a mirror, in reference to the white patches on the head." But we still think that we 'guessed' aright, as a matter of fact, though we may have been etymologically astray, in supposing the sense of the word to be 'spectacular' 'conspicuous,' or, as one might say, 'a sight to behold.' Witness *Phalacrocorax perspicillatus*, applied to a cormorant of conspicuous characters, but not in the least spotted as if 'covered with looking glasses.' Witness also *Pelecanus conspicillatus*, where the same root-word appears in the obvious sense of 'conspicuous.'

No. 746. *Sula.* We gave French *Le Sule;* Wharton, citing Brünnich, says Norse *sule*, said to mean a dolt, an awkward fellow. The English name 'booby' for one of the Gannets may tend to confirm this signification, or implication.

No. 750. *Phalacrocorax.* See under *Fulica*, No. 686.

No. 782. *Rissa.* As we said, this is Icelandic *Ritsa*, name of the bird. Wharton adds, "derivation unknown." Will Professor Merriam give the derivation?

No. 792. *Sterna.* To the several related words we cited, and of which *sterna* is a late Latinization, Wharton adds Frisian *stirn*, Grm. *Tänner*, Swedish *tärna*, Norwegian *terne*, English *tarnay;* and adds, "derivation uuknown." If Professor Merriam's excursions in the etymological field reach so far as this from Athens and Rome, will he not give us the root of this group of words?

No. 808. *Anoüs.* A question of orthoëpy here. We marked the word as a trisyllable, and Wharton follows suit. Are we both right or both wrong, Professor? We fancy that Plato said *nowce*, or something like that,—in one syllable at any rate,—when he talked to his pupils of σῶμα, ψυχή and νοῦς.

NOTES ON THE GENUS *ACANTHIS*.

BY LEONHARD STEJNEGER.

HAVING just finished an examination of a collection of Redpolls, embracing several hundred specimens, from America, Europe, and Asia, I propose to give some brief notes on the results arrived at, as pressing work in other directions at present prevents my elaborating a more extensive memoir.

Before proceeding to the discussion of the several species and subspecies, remarks upon the generic name of the group may not be out of place.

Professor Baird, in 1858, adopted the name *Ægiothus*, given by Cabanis in 1851, and in this almost all American writers have followed him. "*Acanthis* Bp. 1850," is given as a synonym, and as "not of Bechstein, 1802." If we look, however, on p. 125 of the 'Ornithologisches Taschenbuch von und für Deutschland' (Leipzic, 1803), we shall be convinced that Bechstein established the term *Acanthis* for the three species *carduelis* L., *spinus* L., and *linaria* L. (and *flammea*, which is probably only the summer plumage of the last named). But of these three birds, the two first named had already been removed by Brisson in 1760, and by Schäffer in 1789, to the genus *Carduelis* (of late accepted in exactly the same sense by Professor Newton). This leaves *linaria* as the only occupant of the restricted genus *Acanthis*, of which it is consequently the type. The case is too clear to leave any doubt whatever. *Linaria* Vieill., 1816, is often applied to this group, but it is only a synonym, and moreover had been previously occupied; for, besides being used in botany long before, it was the term applied in 1803 by Bechstein (l. c.) to a group of Finches embracing *cannabina* L., *citrinella* L., and *flavirostris* L. (and not *linaria!*), one of them consequently being the type. The foregoing may be summarized thus: —

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= 1816.—*Linaria* VIEILLOT, Anal. p. 30 (nec BECHST. 1803, nec BOTAN.).

= 1851.—*Aegiothus* CABANIS, Mus. Hein. I, p. 161.

= 1860.—*Acanthys* DEMURS, Tr. d'Ool. pp. 334, 546.

In the first place I have to state, that an inspection of my ample material plainly shows that Mr. Ridgway was completely right, when he separated the white Greenland Redpoll (*'canescens'* = *hornemannii*) specifically from *A. linaria*, and that he was also right in placing *exilipes* as conspecific with the former and not with the latter. It is hardly necessary to remark, that no intergradation can be detected between the two typical forms, and not even—and I should say much less—between *hornemannii* and the Greenland form of *linaria*. It is between the latter and the race *exilipes* of the former, that intergradation has been *supposed* to occur. But this intergradation is either only apparent, because it sometimes is difficult to distinguish *young birds* of the two species, or it originates in hybridization. Of all the adult males which I have had the opportunity to examine, only one presented characters somewhat intermediate, thus creating the suspicion of its being a hybrid; but it was essentially a small *linaria*, to which species I referred it without much hesitation. That the two species really interbreed has, however, been observed in Alaska by Mr. E. W. Nelson, if we are correctly informed.

I need not point out the differences between these two species, as they are completely familiar to all North American ornithologists, but I want to call attention to the fact, that *exilipes* gradually becomes smaller going from the East to Alaska and Northeastern Asia. The decrease in size is, however, so gradual, and the difference so small, that the eastern and western birds cannot be separated, especially since there cannot be detected the slightest difference as to color. Von Homeyer indicates that the Asiatic specimens probably have the red more intense than those from America, but I can match a rather vividly colored specimen collected by me on Bering Island with specimens from the interior and the eastern part of North America.

Nor will it be necessary to treat at length of the difference between *exilipes* and its Greenland representative, *hornemannii* (= *canescens* Bp. *nec* Gould). The extremes are easily distinguished by the thicker and stouter bill of the latter, and its decid-

edly superior size. But intermediate forms are met with, and in color there is hardly any difference whatever. It has been generally asserted that *hornemannii* has a proportionally longer tail, a statement positively contradicted, however, by the numerous actual measurements taken by me.*

The collection brought back by me from the Commander Islands proves the occurrence of the true *exilipes* in Eastern Asia, and to this form is referable all instances of *canescens* said to have been obtained there (v. Schrenck, Swinhoe, Taczanowski, etc.), and there is a bare possibility that it is the same form which Severzow calls *Linaria sibirica* (J. f. Orn., 1879, p. 185—nec *Linaria sibirica* Boie). Mr. Dresser, in his 'Birds of Europe,' refers to *exilipes* several light colored specimens from Northern Europe, especially two examples from Tromsö (70° N. L., Norway). I have in my private collection (No. 209) a summer bird from the same locality shot by my friend Sparre Schneider on the 13th of June, 1877. The bill is dark, and of the same size and shape as in small specimens of *linaria*. The color is very pale, and the streaks on the underparts nearly obsolete, thus reminding one very much of *exilipes*, but the rump is decidedly streaked and the proportions correspond with those of *linaria*. I feel pretty sure that the bird in question does not belong to *exilipes*, but to a pale northern race of *linaria*, to which is applicable the name *Acanthis linaria pallescens* (Homeyer). From this I am inclined to believe that *exilipes* does not occur in Europe.

Now a few remarks upon the white colored short-billed forms. In 1834, in Volume III of his 'Birds of Europe,' Gould figured a Redpoll, which he called *Linaria canescens*, a name later applied by Bonaparte and many other ornithologists to the Greenland light species. It has, however, by later authors been identified as a representative of the true *linaria*, of which it therefore has been given as a synonym, as by Dresser, Newton, Seebohm, and the committee of the B. O. U. in its 'List of British Birds.' Unfortunately I have not access to Gould's work, but as the Greenland species is easily recognizable, I do not hesitate in accepting the identification of the above authorities, as far as the

* v. Homeyer (J. f. Orn. 1879, p. 183) says that the tail of *holboellii* is '*longer*' than that of *hornemannii*, but this is probably only a slip of the pen, and that he meant 'shorter' instead.

exclusion of the Greenland bird is concerned, at least. The next name for the latter is given by Holböll in 1843, and is *A. hornemannii*.

The first author to distinguish the different forms of *A. linaria* was C. L. Brehm. His descriptions are, however, very unsatisfactory, and have caused considerable confusion. It has been generally agreed upon to call the long- and slender-billed form of *linaria* by Brehm's name *holboellii*, as that is the appellation applied by him to the form with the longest bill. It was afterwards named by Brehm himself *longirostris;* Sundevall used the names *alnorum* and *magnirostris*, and its summer plumage has recently been redescribed by E. v. Homeyer as *brunnescens*. It is a rather poorly differentiated form, as the intergradation into *linaria vera* is complete, and the intermediate links rather numerous. But, nevertheless, the two races exist, and we shall have to recognize them. The chief distinction is the lengthened and pointed bill, and the somewhat larger size, although the tail is about the same length. Like the true *linaria*, it occurs both in Europe and North America, and I have also met with it in Eastern Asia. It has been suggested that the American forms might be separable as races from the European birds on account of heavier streaking on the lower parts of the body. But I have not been able to verify it as a general rule, while it is certain that I have before me specimens from Scandinavia and America which are perfect counterparts of each other. In size I could detect no difference. For comparison I have had a large series of American birds, including the types of Coues's *fuscescens* from Labrador,* and a similar series of European and Asiatic specimens; among the European, examples from the late Professor Sundevall with the names *L. magnirostris* and *L. ordinaria*, *parvirostris*, or *betularum*, in his own handwriting on the labels.

I may here add a few notes upon a small series of Redpolls from the Island of Kodiak, Alaska. They are perhaps a trifle smaller than *holboellii*, but the length of the bill is by no means inferior. As they are in the worn summer plumage little can be said with certainty about the actual length of wing and tail-feathers. Of the five specimens at hand, one adult male is especially remarkable for the deep color of the dark parts and the bril-

* Not from Alaska, as O. Finsch states (Zweite Deutsche Nordpolarfahrt, II, p. 190).

liancy of the red color* on cap and breast, and the nearly complete absence of red on the rump. Two other red-breasted males from the same locality show no tangible differences from *holboellii*, however, although it ought not to be forgotten that they were killed on the 20th and 27th of May, while the former was obtained on the 27th of July, the difference in date thus accounting for the paleness of the two. As the specimen in question is in rather poor condition, and I have not seen its characters confirmed in other examples, I should not deem it wise to separate it at present; but I wish to draw the attention of ornithologists who may have more ample material from that particular region, to the probability that the Kodiak bird may constitute a peculiar race. I should add, however, that Ridgway has already made a similar statement (Hist. N. A. B., I, p. 492).†

Mr. William Brewster has, in a very instructive and interesting memoir on 'Holböll's Red-Poll' (Bull. Nutt. Orn. Club, 1883, pp. 95-99), expressed the suspicion that *linaria* and what he calls *holboellii* "are forms closely allied, but nevertheless sufficiently segregated to rank as distinct species." Compared with my statements above, we seem to be of very opposite views in this case; but I think that I can offer a satisfactory explanation.

By comparing summer specimens of the so-called *holboellii* from Greenland, and more southern winter birds, with the ordinary form occurring in Europe and America under that name, I was at once struck by the great differences. The Greenland bird is evidently considerably larger, its bill much stouter and somewhat differently shaped—not so pointed—besides being on the *average* a trifle *shorter*. As to color I thought they were rather darker and heavier streaked below. I was very soon convinced that these birds were different from the common *holboellii*, being in fact the form originally described by Coues as *rostratus*, but afterward given up by him.‡ It was also clear that the specimens

* In the intensity and brilliancy of these colors it shows a remarkable analogy to the *Pinicola* inhabiting the same island. This is described by E. v. Homeyer (J. f. Orn., 1880, p. 156) as *P. flammula*, but being connected with *enucleator* by intermediate links it will only stand as *Pinicola enucleator flammula* (Homey.). Previously Pallas noted the difference of the birds from Kodiak.

† Pallas (Zoogr. Ross. As., II, p. 25) also mentions the specimens from Kodiak as remarkable for their long bills and their coloring.

‡ It has been quite erroneously referred to *hornemannii* by Gray (Handl., II, p. 110), Giebel (Thesaur. Orn., II, p. 196) and, strangely to say, by Dr. Coues himself (Bull. U. S. Geol. Surv., V, p. 633).

examined and described by Brewster were the winter plumage of the same form. The Redpolls are rather difficult to determine from descriptions, but if they all were so clear and thorough as those of Mr. Brewster there would have been less confusion in this group of birds. His statement that the specimens from New England "will be found to differ from the ordinary type [*linaria*] in being very much larger, with stouter, less acute bills, generally darker coloring, and especially darker, coarser streaking beneath," will apply to *rostrata*, as distinguished not only from *linaria*, but also from true *holboellii*.

Nevertheless, I do not agree with him in regarding *Acanthis rostrata* as a 'distinct species.' The conclusion of Mr. Brewster is easily explained, he probably having only the short-billed *linaria* for comparison; but as the measurements, given below, show, there is a regular intergradation, and the Greenland bird cannot be justly designated except as conspecific with the other forms. It will therefore, after the common usage of American writers, stand as *A. linaria rostrata*. This name does not quite express the true relationship; for if the trinominal nomenclature is adopted in order to show that the two forms whose names are combined intergrade, we should expect a combination like *A. holboellii rostrata* on the one hand, and *A. linaria holboellii* on the other. This is the course taken by Mr. Seebohm, and is a point which merits earnest consideration.

Here comes up a question about the first name of this form, as I am inclined to believe that it may be *Acanthis linaria lanceolata* (Selys) Dubois. In the Parzudaki Catalogue of European Birds (Paris, 1856) C. L. Bonaparte enumerated among the Redpolls a *Linaria groenlandica* Bp. without giving any diagnosis or description whatsoever. As it is a '*nomen nudum*' nothing can save it, although it evidently is no other bird than the present, *hornemannii* being enumerated as *canescens*, and there being only these species found in Greenland. Nor is Gerbe's description* in that respect of any use, as it is published six years later than Coues's *rostratus*. In the 'Rev. et Mag. Zool.' (1857, p. 123), De Selys, in reviewing Bonaparte's 'Catalogue Parzudaki,' mentions the *groenlandica* as identical

* "La *Groenlandica* serait particulièrement caractérisée par des taches lancéolées noires et très-nombreuses sur la poitrine et sur les flancs" (Ornith. Europ., I, p. 293, Paris, 1867).

with his *lanceolata*, but gives no further clue to the origin of this name, nor does his countryman, Dubois, who, in his 'Consp. Av. Europ.', p. 18 (Brux., 1871), gives the combination *Acanthis linaria* γ *lanceolata* Selys. Having no access to De Selys's 'Faune Belge,' nor to his other writings (it does not occur in the paper entitled 'Sur les Oiseaux américains dans la faune européenne' in 'Mém. Soc. Liège,' 1847, IV, p. 35), I cannot come to any conclusion upon this point. But it is very desirable that anyone having the opportunity should look the matter up before the new list of North American birds, planned by the A. O. U., is published.*

There remains only to be said a few words upon the two European races of *linaria* not recognized from America. The one is the *pallescens*, spoken of above, while the other is the form found breeding in the British Islands, and, as I believe, on all the high mountains of Southern Europe. Mr. Seebohm (Hist. Brit. Bird's Eggs, II, p. 117, London, 1883) states that "the only known instance of the Lesser Redpole breeding out of the British Islands is that recorded by Professor Giglioli ('Ibis,' 1881, p. 204), who obtained a nest from the Veglio Alps in Italy, about 7000 feet above the sea-level." This is not correct, for its breeding in the Styrian Alps, at a height of 5,000 to 6,000 feet above sea-level, has been several times announced by von Tschusi-Schmidhofen (*cf.* J. f. Orn., 1872, p. 132, as *Acanthis linaria; ibid.*, 1875, p. 409, as *Fringilla l.;* and *ibid.*, 1876, p. 331, as *Fringilla rufescens*).

This form is said to be distinguished by its rump having no white coloring, and by being smaller than *linaria*. A specimen in the National Museum from England, shot on the 18th of May, 1837, is of the size of a small *linaria*, but has a decidedly weaker bill. As it is in bad condition, nothing can be concluded from the color of the plumage.

There can be no doubt as to the identification of Buffon's 'Pl. Enlum.,' pl. 485, fig. 2, upon which Müller's name *Fringilla cabaret* and Boddaert's *Fringilla minima* are based. The uropygium is plainly visible and is painted uniform brown, the main character of the English bird.

* Since writing the above Mr. J. A. Allen has kindly informed me that it does not occur in this work. The probability therefore is that it is only a museum name.

The following brief synopsis and synonymy may be regarded as a condensed summary of the above notes. The synonymy, it will be seen, does not pretend to be in any way complete.

SYNOPSIS.

1. **Acanthis hornemannii** (HOLB.) STGR.

1843.— *Linota hornemannii* HOLBÖLL, Naturh. Tidskr. (IV, p. 398).

1850.— *Acanthis canescens* BP. & SCHLEG. Mon. Lox. p. 47, pl. 51 (*nec* GOULD, 1834).

(*Ægiothus canescens* var. *canescens* B. BR. & RIDGW. Hist. N. Am. B. I, p. 493.— No. 178, RIDGW. Nomenclature, p. 22.— *Ægiothus hornemanni*, No. 209, COUES, Check L., 2d ed., p. 49.)

HAB.— Greenland and Eastern Arctic America.

1 *a*. **Acanthis hornemannii exilipes** (COUES) STGR.

1839.— *Fringilla borealis* AUD. Orn. Biogr. V, p. 87, pl. 400 (*nec* VIEILL. 1818).

1860.—*Fringilla linaria canescens* v. SCHRENCK, Reise Amurl. I, p. 296.

1861.— *Ægiothus canescens* ROSS, Edinb. Phil. Journ. 1861, p. 163 (*nec* GOULD, 1837).

1861.— *Ægiothus exilipes* COUES, Pr. Phil. Ac. 1861, p. 385.

1872.— *Ægiothus linaria* var. *exilipes* COUES, Key, p. 131.

1874.— *Ægiothus canescens exilipes* RIDGW. Ann. Lyc. Nat. Hist. N. Y. X, p. 372.

(*Ægiothus canescens* var. *exilipes*, B. BR. & RIDGW. *l. c.*— No. 178*a*. RIDGW. *l. c.*— *Ægiothus exilipes*, No. 210, COUES, *l. c.*)

HAB.— Arctic America and Northeastern Asia.

2. **Acanthis linaria** (LIN.) BP. & SCHL.

1758.— *Fringilla linaria* LIN. S. N. 10th ed. I, p. 182.

1818.— *Linaria borealis* VIEILL. Mem. Ac. Tor. XXIII (p. 199).

1831.— *Linaria agrorum* BREHM, Handb. Vög. Deutschl. p. 281.

1831.— *Linaria betularum* BREHM, *ibid.* p. 282.

1834.— *Linaria canescens* GOULD, B. of Eur. III (pl. 193).

1840.— *Fringilla linaria betularum*, SUNDEV. Sv. Vet. Ac. Handl. 1840 (p. 59).

1861.— *Ægiothus fuscescens* COUES, Pr. Phil. Ac. 1861, p. 222.

1866.— *Fringilla linaria brevirostris* HOLMGR. Skand. Fogl. I, p. 328.

1873.— *Ægiothus rufescens* ALST. & BROWN, Ibis, 1873, p. 64 (*nec* VIEILL.).

(*Ægiothus linarius* var. *linarius* B. BR. & RIDGW. *l. c.*— *Ægiothus linaria*, No. 179, RIDGW. *l. c.* — No. 207, COUES, *l. c.*)

HAB.— Northern portion of Palæarctic and Nearctic Regions.

2*a*. **Acanthis linaria pallescens** (HOMEY.) STGR.

1817.—*Fringilla linaria* var. β NILS. Orn. Svec. I, p. 150.

1861.—*Fringilla canescens* SOMMERF. Öfv. Sv. Vet. Akad. Förh. 1861 (p. 81).

1876.—*Linota canescens* SEEB. & BROWN, Ibis, 1876, p. 116 (*nec* GOULD).

1877.—*Linota exilipes* DRESSER, B. Eur. pts. LVII and LVIII (*part*).

? 1879.—*Linaria sibirica* HOMEY. J. f. Orn. 1879, p. 185 (*nec* BOIE, 1822).

1880.—*Linaria pallescens* HOMEY. *ibid.* 1880, p. 156.

HAB.— Arctic Europe (and West Siberia?).

2*b*. **Acanthis linaria holboellii** (BREHM) DUBOIS.

1831.—*Linaria holboellii* BREHM, Handb. Vög. Deutschl. p. 280.

1831.—*Linaria alnorum* BREHM, *ibid*, p. 281.

1840.—*Fringilla linaria alnorum* SUNDEV. Sv. Vet. Acad. Handl. 1840 (p. 59).

1855.—*Linaria longirostris* BREHM, Naumannia, 1855, p. 277.

1857.—*Acanthis holboolli* SELYS, Rev. Mag. Zool. 1857, p. 126.

1866.—*Fringilla linaria magnirostris* HOLMGR. Skand. Fogl. I p. 328.

1871.—*Acanthis linaria* β *holbôllii* DUBOIS, Consp. Av. Europ. p. 18.

1879.—*Linaria brunnescens* E. v. HOMEY. J. f. Orn. 1879, p. 184.

1880.—*Linaria alnorum magnirostris* MEVES, J. f. Orn. 1880, p. 155 (*fide* HOMEY.).

(*Ægiothus linarius* var. *holbölli* B. BR. & RIDGW. *l.c.* (only in part).—No. 179*a*, RIDGW. *l.c.*—No. 208, COUES *l.c.*)

Hab.—Northern portion of Palæarctic and Nearctic Regions.

2*c*. **Acanthis linaria rostrata** (COUES) STGR.

—*Linaria lanceolata* SELYS (*ubi?*).

1856.—*Acanthis groenlandica* BONAP. Catal. Parzud. p. 4 (*nomen nudum.*)

1861.—*Ægiothus rostratus* COUES, Proc. Ac. Phil. 1861, p. 378.

1871.—*Acanthis linaria* γ *lanceolata* DUBOIS, Consp. Av. Europ. p. 18.

1874.—*Ægiothus linarius holbölli* B. BR. & RIDGW. Hist. N. Amer. B. I p. 493 (part).

1883.—*Ægiothus linaria holboelli* BREWSTER, Bull. Nutt. Orn. Cl. 1883, p. 95.

(*Ægiothus linarius* var. *holboelli* B. BR. & RIDGW. *l.c.* (in part).—No. 179*a*, RIDGW. *l.c.*—No. 208, COUES *l.c.*)

HAB.— Greenland and North Eastern America.

2*d*. **Acanthis linaria cabaret** (MÜLL.) STGR.

1776.—*Fringilla cabaret* MÜLL. Natursyst. Suppl. (p. 165).

1783.—*Fringilla minima* BODDAERT, Tabl. Pl. Enlum. p. 28 (*Ed.* Tegetm.).

1790.—*Fringilla linaria* β LATH. Ind. Orn. I, p. 459.

1818.—*Linaria rufescens* VIEILL. Mem. Acad. Torin. XXIII, (p. 202.)

1833.—*Linaria minor* SELBY, Brit. Orn. I (p. 320).

(*Linota rufescens* List B.O.U. p. 54.—No. 203, DRESSER, List. Eur. B. p. 16.)

HAB.—British Islands, and high mountains of Southern Europe.

Finally, it may not be out of place to give a few measurements, but in order to save time and space I here only offer the averages, reserving the details for a more elaborate memoir on which I am

Table of Comparative Measurements.

Name of species	Localities.	Number of specimens measured.	Wing.		Tail-feathers.		Bill from nostrils.		Depth of bill.	
			mm.	inch.	mm.	inch.	mm.	inch.	mm.	inch.
A. Winter specimens (October—April).										
(*a*) Males.										
1. *hornemannii*	East N. Amer.	Av. 6♂♂*	85.3	3.40	66.3	2.61	8.0	0.32		
1a. *h. exilipes*	Asia, W. & E. Amer.	" 17♂♂	73.8	2.91	58.7	2.31	6.6	0.26		
2. *linaria.*	E. Asia, Amer. Scand.	" 16♂♂	73.8	2.91	58.0	2.28	7.5	0.29		
2b. *l. holboellii*	E. Asia, E. Am. Scan.	" 10♂♂	75.4	2.97	58.6	2.31	8.6	0.34	6.3	0.25
2c. *l. rostrata*	E. Amer. & Greenl.	" 8♂♂*	81.1	3.19	62.4	2.46	8.2	0.32	7.5	0.29
(*b*) Females.										
1. *hornemannii*	E. North Amer.	Av. 6♀♀*	84.1	3.31	64.3	2.53	7.9	0.31		
1a. *h. exilipes*	Asia, W. & E. Amer.	" 13♀♀	71.1	2.80	57.7	2.27	6.7	0.26		
2. *linaria*	E. Asia, Amer., Scan.	" 19♀♀	71.1	2.80	56.5	2.22	7.3	0.29		
2b. *l. holboellii*	E. Asia, Scandin.	" 3♀♀	72.0	2.83	56.7	2.23	9.0	0.35	6.2	0.24
2c. *l. rostrata*	E. North Amer.	" 6♀♀*	76.8	3.02	60.5	2.38	8.2	0.39	7.5	0.29
B. Summer Specimens (May — September).										
(*a*) Males.										
1a. *h. exilipes*	Alaska	Av. 6♂♂	72.3	2.85	58.3	2.30	6.9	0.27		
2. *linaria*	North America.	" 7♂♂	71.9	2.83	56.3	2.22	7.5	0.29		
2b. *l. holboellii*	E. Asia, Kodiak, Scan.	" 7♂♂	74.0	2.91	56.9	2.24	8.5	0.33	6.1	0.24
2c. *l. rostrata*	Greenland.	" 1♂	77.0	3.03	56.0	2.20	8.5	0.33	7.5	0.29
(*b*) Females.										
1a. *h. exilipes*	Alaska.	Av. 2♀♀	71.5	2.81	56.5	2.22	7.0	0.28		
2. *linaria*	North America.	" 5♀♀	69.2	2.72	55.6	2.19	7.1†	0.28		
2b. *l. holboellii*	E. Asia, Kodiak.	" 3♀♀	71.3	2.80	57.0	2.24	8.2	0.32	6.2	0.24

* Sex and date supp.

† The type-specimen of Coues's *fuscescens* has a very worn and therefore very short bill, thus depressing the average unduly. The average of the four other females is 7.4 mm. = .28 inch.

at present engaged. The measurements are given separately for the different sexes, and for the summer and winter plumages. In the former the feathers are usually much abraded, the measurements thus being smaller and also less reliable. It is consequently a matter of fact that the measurements of summer specimens of the larger form inosculate with those of the smaller one in winter plumage; but that is not true intergradation. Such *specimens only* are therefore measured in which locality, date, and sex were plainly marked on the label by the collector himself, unless otherwise stated. In no case have I given measurements of examples the sex or date of which I have guessed from the size, the color, or the appearance of the plumage, except in two particular instances as specified in the table.

P. S.—Since the above was written Mr. W. Brewster has had the great kindness to send to me for inspection the specimens upon which his remarks on *L. holboelli* in his above quoted paper, were based. They confirm what I have already said, and there can, in my opinion, be no doubt that these Redpolls are birds bred in Greenland, or perhaps on the opposite shore of North America, wandering along the coast line in winter as far south as New England and New York. They are, in all respects, true and typical *A. l. rostrata*.

As Mr. Brewster's and my measurements are scarcely comparable on account of our different manner of making them, I have remeasured them, so that they may be compared with the dimensions recorded in the 'Table of Comparative Measurements' of this paper. I have also added the dimensions of two fine males in winter plumage from Dr. A. K. Fisher's collection, being in every respect true *rostrata*. The character originally pointed out by Mr. Brewster, that in *rostrata* the upper mandible is decidedly decurved and its outline noticeably convex,

holds good in all the specimens. The outline is straight both in *linaria typica* and in *holboellii*.

Table of measurements of A. l. rostrata.

Collection.	Cat. No.	Locality.	When collected.	Sex and age.	Wing.		Tail-feathers.		Bill from nostrils.		Depth of bill.	
					mm.	inch	mm.	inch	mm.	inch	mm.	inch.
A. Specimens from Massachusetts.												
(*a*) Males with red on the breast.												
W. Brewster	7892	Near Boston.	Feb. 1883.	♂ ad.	78	3.07	62	2.44	8	0.32	7.7	0.30
"	. .	Nantasket.	Feb. 22, '83	♂ ad.	77	3.03	60	2.36	8	0.32	7.0	0.28
"	. .	"	"	♂ ad.	81	3.19	61	2.40	8	0.32	7.0	0.28
"	. .	"	"	♂ ad.	80	3.15	62	2.44	7.7	0.30	7.0	0.28
					79	3.11	61.2	2.41	7.9	0.31	7.2	0.28
(*b*) Males without red on the breast.												
W. Brewster	7898	Near Boston.	Feb. 1883.	♂	75	2.95	59	2.32	7.7	0.30	7.0	0.28
"	7913	" "	"	♂	82	3.23	64	2.52	8.0	0.32	7.0	0.28
"	7894	" "	"	♂	77	3.03	58	2.28	8.0	0.32	7.0	0.28
"	7897	" "	"	♂	81	3.19	64	2.52	8.0	0.32	7.5	0.29
					79	3.11	61.2	2.41	7.9	0.31	7.1	0.28
(*c*) Females.												
W. Brewster	2922	Cambridge, Mass.	Feb. 19, '73	♀	75	2.95	61	2.40	7.7	0.30	6.8	0.27
"	2928	W. Newton, Mass.	Jan. 23, '75	♀	74	2.91	61	2.40	7.5	0.29	7.0	0.28
"	7896	Near Boston.	Feb. 1883.	♀	77	3.03	61	2.40	8.0	0.32	6.5	0.25
					75.2	2.96	61	2.40	7.7	0.30	6.8	0.27
B. Specimens from New York.												
Males with red on the breast.												
Dr. A.K. Fisher	1444	Sing Sing, N.Y.	Winter.	♂ ad.	83	3.27	64	2.52	8.2	0.32	7.2	0.28
" "	1445	" "	"	♂ ad.	79	3.11	65	2.56	8.0	0.32	7.0	0.28

SMITHSONIAN INSTITUTION,
Washington, D. C., Jan. 22, 1884.

THE WINTER PASSERES AND PICARIÆ OF OTTAWA.

BY W. L. SCOTT.

It has been the delight of poets, from time immemorial, to chant of spring and summer as the exclusive seasons of birds and sunshine; but even in our 'bleak northern clime,' our cold winter days are by no means destitute of either the one or the

other. Of the Canadian winter sunshine, any one can speak who has spent a winter in Canada, and experienced the clear, dry, sunny weather, which makes our season of snow so thoroughly enjoyable; and of the Canadian winter birds, or, at least, of some of those which visit Ottawa, I propose to say a few words.

During the winter, it is true, we look in vain for the myriads of feathered songsters which make the spring and summer woods resound with their joyous carols; but we are visited by numbers of little travellers from the far North who, at least to the naturalist, are no less curious and interesting.

First among the latter, both on account of its place in the Check-list and of its extreme abundance, stands the Black-capped Chickadee (*Parus atricapillus*). It remains with us throughout the whole year—that is, at least, some individuals do, for they are so abundant during the winter, and so few, in comparison, are to be seen in the summer, that numbers, in the former season, must come from the north.

Its cousin, the Hudson's Bay Tit (*Parus hudsonicus*) can, I think, be put down as a rare winter visitant. Very few have been seen here at all, and, as far as I know, none in the summer. The earliest autumn record which I have is October 31 of this year, on which date I observed one hopping about among the branches of a poplar tree, quite near the city.

The White-bellied and Red-bellied Nuthatches (*Sitta carolinensis* and *S. canadensis*) are quite common with us during the whole year; but while the proportion one sees in the summer is about six of the Red-bellied species to one of the White-bellied, in the winter it is exactly the reverse. The White-bellied are commoner during the months of October and November than at any other season. A Red-bellied Nuthatch was taken here on December 8, the contents of whose gizzard were examined by James Fletcher, Esq., under a powerful microscope, and he says of it: "I found two skins possibly of the seeds of a conifer; the whole of the remainder of the contents was made up of coarse sand."

On December 8 I shot a Brown Creeper (*Certhia familiaris rufa*), which is the first instance of the occurrence here of this species, during the winter months that I can learn of. Mr. Fletcher also kindly examined the contents of the stomach of this bird and reports: "There were parts of 35 wings of Pysllidæ; judging from

the shape, they were probably of three species. These are small Homopterous insects which hibernate under the moss on trees, or in the crevices of bark. In almost equal numbers were portions of the wings of a small *Erythroneura*, probably found in similar places as the above. I could not detect a single wing belonging to any species of Coleoptera, which somewhat surprised me. I found a few scales of some species of Lepidoptera, but no remnants of the wing. There was one pair of rather large wings of some species of Diptera, and one very peculiar under-wing which I could not determine. The rest of the contents of the gizzard consisted of the legs and chitinous portions of the bodies of the above-named insects. There was not a single grain of sand."

One of our winter visitants, the Northern Waxwing (*Ampelis garrulus*), put in an unusually early appearance this season. Flocks of from fifteen to twenty usually visit us during January and the first part of February, venturing into the city and feeding on the berries of the European mountain ash trees (*Pyrus aucuparia*) which grow on the streets in many places. This year, however, five specimens were observed feeding on the seeds of a black birch (*Betula nigra*) as early as November 11, and two others were seen a few days later.

Unfortunately for the Sparrows and other small birds, the Great Northern Shrikes (*Lanius borealis*) are pretty common here throughout the winter. They do not, however, seem to breed in this locality, for I have never heard of any being seen later than the end of April, or earlier than the beginning of September. A friend of mine shot one the other day, in the act of chasing a full-sized Chipmunk (*Tamias striatus*), but I think it questionable whether the bird would have been strong enough to kill and devour such large game.

The Pine Grosbeak (*Pinicola enucleator*) is always common here during the winter, but last season (1882-83) was particularly abundant. These birds are very tame, going boldly about our streets in great numbers, and they will often permit an observer to approach to within a few feet of them without manifesting the least alarm. On one occasion a gentleman went so far as to stroke one with his stick, whilst it was busily engaged in devouring some berries. Nothing daunted, however, the bird hopped upon the stick, and continued its meal from that novel perch. They usually stay with us from the end of November until the

latter part of March; but last spring they were here as late as April 21, and this season they had arrived by the first of November.

The White-winged and Red Crossbills (*Loxia leucoptera* and *L. curvirostra americana*) remain with us from December to March; but while the latter are abundant, the former are quite rare. Last season a flock of five Red Crossbills was observed by Professor Macoun and Mr. Geo. R. White, as late as May 10; and in 1882 a flock of the White-winged species visited us towards the latter part of June.

Both the Lesser and the American Mealy Redpolls (*Ægiothus linaria* and *A. exilipes*) abound usually from December to March. Last spring, however, flocks were seen as late as May 10, and this year they arrived on October 30. Specimens of the latter species were kindly identified for me by Dr. Coues. While with us they feed on the seeds of the white cedar (*Thuja occidentalis*), hemlock (*Abies canadensis*) and mullien (*Verbascum thapsus*). Mr. White tells me that he noticed a flock a short time ago, feeding on pine cones. They were sending down such a shower of pieces of the cones that he at first took them for Crossbills; but, on shooting some of them, he discovered them to be Redpolls.

The Snow Bunting (*Plectrophanes nivalis*) is, with us, essentially a snow bird. It comes with the first fall, remains as long as the snow covers the ground, and when the snow melts, it goes also. It lives principally on the refuse of the streets, and on the seeds of weeds, which, like the mullein, project above the snow; but it is never seen to frequent trees of any kind. Our first fall of snow is generally about the first of November, and the ground is usually clear by the beginning of April.

The English Sparrows (*Passer domesticus*) are, unfortunately, but too common with us, during both winter and summer. They are very hardy, and stand our climate remarkably well. In order to protect themselves from the cold, they occupy their nests throughout the whole year; and this habit is fraught with very unpleasant consequences for the unfortunate inmates of the houses beneath whose protecting eaves the nests are built. For the nests get so infested with vermin, that the insect pests frequently descend into the houses, and make their presence felt in a manner much more forcible than pleasant. During the cold weather the Sparrows subsist mainly on the street refuse, and on food thrown to them from the windows; but I have also frequently

seen them devouring the buds of the maple (*Acer saccharinum*) and other shade trees along the streets.

The Pine Finches (*Chrysomitris pinus*), although abundant here last winter, were not noticed in former seasons. They came towards the beginning of December, and seemed very loth to leave in the Spring, for one individual was observed as late as May 10. Their food is much the same as that of the Redpolls, in company with which species they are generally found. Like most of our other winter birds, they invade the city limits, and I have seen them feeding on the seeds of lamb's quarters (*Chenopodium album*), growing in a vacant lot on one of the public streets.

The Raven (*Corvus corax carnivorus*) is rare with us at any time, but is about as common in the winter as in the summer. None have been observed in the immediate vicinity of the city, but they are to be found within twenty miles of it, on the Ottawa, Gatineau, and Rideau Rivers.

The Common Crow (*Corvus frugivorus*) is usually represented by a few individuals each season, but is rarely seen near the city except during the thaws or 'mild spells.' One of the exceptions occurred this winter, when two were observed picking at the carcass of a dog, in an open field, while the thermometer registered —14° F.

Blue Jays (*Cyanocitta cristata*) are common about Ottawa at all seasons. From the end of the breeding season until the beginning of December they go about in flocks, but after that usually separate into twos and threes.

The Canada Jay (*Perisoreus canadensis*) is rare both in summer and winter. It is usually found singly or in pairs, but occasionally also in small flocks of about five or six.

The Shore Lark (*Eremophila alpestris*), though not properly a winter bird, nevertheless claims a few words in the present connection, on account of the very early date at which it arrives here from the south. It usually puts in an appearance as early as the 15th or 20th of February, long before there is any sign of a break in the winter weather. Professor Macoun tells me that it appears at Belleville about the 9th or 10th of February, and I believe at Toronto it is found though the entire winter. It generally leaves here in the fall about the beginning of December. While the snow is on the ground it feeds on the seeds of mulleins and other tall weeds.

Another species which claims mention solely on account of occasional early and late occurrences is the Robin (*Merula migratoria*). As a rule these birds are not seen here in any numbers until the beginning of April, and they are away before the beginning of October, but a few stragglers stretch those limits considerably, individuals having been observed in December and February.

Of the order Picariæ, only four species, all of the family Picidæ, can be properly called winter birds in this locality. These are the Downy Woodpecker (*Picus pubescens*), the Hairy Woodpecker (*Picus villosus*), the Black-backed Three-toed Woodpecker (*Picoïdes arcticus*), and the Banded-backed Three-toed Woodpecker (*Picoïdes tridactylus americanus*). Of these, the Downy and Hairy are common, both summer and winter, but are much less so during the latter season. The Black-backed Three-toed is not very uncommon in the summer, but is rarely met with during the cold weather. The Banded Three-toed has only been taken two or three times, and never in the summer. The only specimen I have known taken here is a female, which was shot on the 5th of last November, and is at present in the collection of Mr. White.

While on accidental stragglers, I should have recorded the occurrence of a Chimney Swift (*Chætura pelasgica*) which came under the notice of Mr. J. F. Whiteaves, Palæontologist and Zoölogist to the Geological survey of Canada. During the first week in February, 1883, a Swift came down the chimney and into a room in which that gentleman was sitting. The bird appeared somewhat dazed as it flew about the room, knocking over several articles in its career. It was caught and examined by Mr. Whiteaves, and remained alive for several days. Does this incident suggest hibernation to any of my readers?

NOTES ON *ARDEA WARDI* RIDGW.*

BY CHAS. W. WARD.

THESE birds were first noticed in 1883, on Kissimmee Lake, Florida, where three specimens were procured. With one excep-

* *Cf.* Bull. Nutt. Orn. Club, Vol. VII. Jan. 1882, p. 5.

tion these specimens were identical in size and coloration with those procured in 1881 at Estero Bay. The measurements of the two before me, taken when the birds were fresh, are as follows: No. 1. Culmen, 7.75; depth of bill, 1.40; tarsus, 10.00; middle toe, 5.75; naked tibia, 5.75. Eyes yellow; bill olive above and yellow below. Bare portion of tibia light yellow, shading into olivaceous at the knee-joint. Tarsus olivaceous in front, bright yellow behind; soles of feet and toes light yellow. No. 2. Culmen, 7.25; depth of bill, 1.20; tarsus, 8.50; middle toe, 5.25; naked tibia, 5.50. Eyes yellow. Bill uniformly lightish yellow. Bare tibia, tarsus, and feet colored as in No. 1. This specimen differs in coloration from the type specimen in the head and neck. The neck is a shade darker. The head is pure white, black crown patch smaller, white on forehead larger, extending back behind the occipital plumes, which are white, narrowing at the back of crown, where the elongated feathers are streaked and splashed with white. I first called this specimen *Ardea würdemanni*, but Mr. Ridgway, upon comparing it with the type of *A. würdemanni*, pronounces it typical *A. wardi*, with an albinotic tendency. We found *A. wardi* nesting singly, and in groups of half-a-dozen to forty pairs. Several specimens were taken at different points on the Kissimmee River, Lake Okeèchobee, and Charlotte Harbor, all being alike in color.

A curious circumstance was the conspicuous absence of *A. occidentalis* among the birds. In the entire region explored not a single specimen was observed. Several large heronries were examined on Lake Okeechobee (ranging in size from 10 to 40 nests), and not a single white bird, either old or young, could be found. In the Okeechobee heronries no other Herons nested, the ground being exclusively occupied by Snake Birds and *A. wardi*.

From March 1 to May 15, these birds were breeding. Young in every stage of development were found (as well as freshly laid eggs) during my entire sojourn. My observations have led to no definite or satisfactory conclusions regarding the status of *A. occidentalis*, *A. würdemanni*, and *A. wardi*. Through the regions explored *A. wardi* is abundant and *A. würdemanni* and *A. occidentalis* are exceedingly rare, if found at all.

It would appear from all the evidence at my command that *A. wardi* has no white phase. The only evidence tending to substantiate the theory of dichromatism is the finding of a white

and gray bird in the same nest at Estero Bay in 1881, and the bird procured last March, on Kissimmee Lake, with the white occipital plume. This would seem to be insufficient.

Mr. Cannon, a bird collector for many years on the Atlantic and Gulf coasts, coincides in the opinion that the white and gray birds are different species, stating that he has visited heronries composed entirely of *A. occidentalis* — not a single gray bird among them; and that he has yet to find a single instance where a white and gray bird have mated. Better evidence is needed to settle this question than is now at command.

NOTES ON *PHALACROCORAX VIOLACEUS*, AND ON *P. VIOLACEUS RESPLENDENS*.

BY N. S. GOSS.

THE Violet-green Cormorants are quite common along the Northwest Coast, but not easily captured, as they rarely alight upon the main land, even where the coast is high and precipitous, preferring the rocks and reefs off the shore which are more or less submerged at high tide. These form their natural fishing grounds and resting places and to which they return at night. They nest upon the sides of the higher rocks and inaccessible cliffs that in places form the frontage of the islands.

At Neah Bay and vicinity, Washington Territory, I had a very good opportunity to observe the birds from the 10th of January to the 6th of June, 1882. The following are the measurements, etc., as taken at the time of killing, of seven of the birds (four of which are in my collection): —

Locality.	Date.	Sex.	Length.	Stretch.	Wing.	Tail.	Tars.	Bill.	Weight.
Neah Bay,	Jan. 31.	♀	25.50	39.25	9.40	5.80	1.70	1.70	2lb. 14oz.
Neah Bay,	Feb. 13.	♀	25.75	39.10	9.30	6.00	1.70	1.80	3lb.
Neah Bay,	Feb. 16, juv.	♂	27.50	41.00	9.65	6.20	1.75	1.85	3lb. 5oz.
C. Flattery,	Feb. 19.	♂	28.50	42.50	10.00	6.50	1.80	1.95	3lb. 13oz.
Neah Bay,	May 13.	♂	29.00	43.50	10.50	6.70	1.80	1.95	3lb. 15oz.
Neah Bay,	May 13.	♀	25.75	39.35	9.40	6.00	1.70	1.85	2lb. 14oz.
Neah Bay,	June 4, juv.	♀	25.50	39.20	9.40	5.80	1.70	1.80	2lb. 14oz.

Iris of adults, green; of juveniles, brown. Bill dusky with an olive tint; in birds shot May 13, grayish on sides. Lores, bare space around eyes and gular sac dark purple-brown, dotted over with deep red papillæ. Legs, feet, webs, and claws black.

I notice that in all the descriptions of the birds that I have read the bare space around the eyes and gular sac are given as orange. This must be incorrect, as none of the many I shot were even tinged with this color, but were throughout of rather a deep reddish-brown or grape-juice color. I am inclined to think writers have followed Aububon, who gives the color as orange from a dried specimen sent to him by Mr. Townsend; and as the bill, legs, feet, and all bare spaces change rapidly to a darker color after death, it would be impossible to determine with any certainty from dried skins the true color in life.

The sexes are alike in color, the female being fully as lustrous as the male, the only difference in outward appearance being the smaller size of the female. Except during the breeding season, the birds are without the coronal and occipital crests and the white flank-patches. About the middle of February a few scattering white feathers begin to appear upon the flanks, and by the middle of May these patches are wholly white, and the two lateral crests on the head are full and complete. The short, white, *hair*-like feathers irregularly and sparingly scattered over the neck, and occasionally upon the back, I found about the same in all the adults, but I am inclined to think that they also belong to the breeding plumage and are not present in autumn. The young birds are rusty brown, and as many were of this color when I left (June 6), the birds must be two years at least in acquiring the adult plumage.

May 15, at Tatoash Isle (an islet close to Cape Flattery, just outside of the mouth of the Strait of Fuca), I found a few of these birds nesting up the south side of the high perpendicular cliffs. The nests were made of seaweed but were not bulky. On the top of the island were places where I could look down upon the birds, which I frightened away by dropping pieces of sod torn from the bank. Several nests were without eggs; others had one or two. It was my intention to return later, and also visit the 'Flattery Rocks,' where they nest in numbers, for the purpose of securing full sets of their eggs (three to four, white with a bluish-green tint); but an opportunity to cruise in a schooner that was to take Indians and their canoes to catch the fur seals was too tempting to be resisted, and on my return business engagements called me home.

P.S.—Since writing the above I have received and read Dr. J. G. Cooper's paper 'On a new Cormorant from the Farallone Islands, California.'* This is the *Graculus bairdi* Gruber, MSS., which Mr. Ridgway refers to *P. violaceus resplendens.* From the description given in the above-cited paper I might be led to think that the birds I have described must be Baird's Cormorant instead of the Violet-green, did not Dr. Cooper speak of the variety found on the coast of California as differing from the birds of the Oregon and Washington coasts in having, among other things, "conspicuous white patches on the flanks." But the birds of the Washington coast and vicinity have, as stated above, the white flank-patches, and also the color and markings given by Dr. Cooper for the more southern bird. The only difference (so far as I can judge) is the alleged smaller size of the so-called southern variety. But Dr. Cooper's measurements do not show this difference; and as Dr. G. Suckley, in his report on water birds in 'Explorations and Surveys for the Pacific Railroad' (Vol. XII, pt. 2, p. 268), gives the color of the female as brown, is it not possible that Mr. Gruber and others referred to by Dr. Cooper were of the same opinion, and that notes and measurements of specimens sent the Smithsonian Institution have not been from specimens sexually determined by dissection? If so the difference in size would be accounted for. But be this as it may, further investigation appears necessary to establish the validity of this supposed variety.

[The birds met with by Mr. Goss were apparently *P. violaceus resplendens.* My reference of *Graculus bairdi* Gruber to *P. resplendens* Aud. is based on an actual comparison of the type specimen of the latter with typical examples of the former, from the Farallone Islands. They are identical, except that the type of *resplendens* has no flank-patches; but, as Mr. Goss observes, this is purely a seasonal character, said white patches being present only in the breeding season. The true *P. violaceus* is a much more northern bird than *resplendens*, and differs chiefly, if not only, in its larger size. Its distribution extends from Kamtschatka through the Aleutian chain, and thence south along the coast of Alaska for an undetermined distance, but it probably does not occur on the coast of Washington Territory or Oregon, except in winter.—ROBERT RIDGWAY.]

BRIEF DIAGNOSES OF TWO NEW RACES OF NORTH AMERICAN BIRDS.

BY E. W. NELSON.

1. **Picoides tridactylus alascensis.** ALASKAN THREE-TOED WOODPECKER. — SUBSP. CHAR.: — Differing from *P. tridactylus americanus* in having the back much more broadly barred with white, the white bars

* Proc. Acad. Nat. Sci. Phila., XVII, 1865, pp. 5, 6.

always more or less confluent; post-ocular white stripe much more distinct and dark bars of sides much narrower. *Hab.* Alaska and northern British America.

2. **Astur atricapillus henshawi.** HENSHAW'S GOSHAWK.—SUBSP. CHAR.:—Much darker than true *atricapillus*. Adult with the back slaty black, instead of plumbeous, and lower parts very coarsely and heavily marked with dusky. Young with lower parts broadly striped with brownish black, and tibiæ heavily spotted with the same. *Hab.* Pacific coast region, from southern Arizona to Sitka, Alaska.

ANALECTA ORNITHOLOGICA.

BY LEONARD STEJNEGER.

I. THE OCCURRENCE OF *Turdus aliciæ* IN THE PALÆARCTIC REGION.

IN his 'The Birds of Bering Sea and the Arctic Ocean' (Cruise of the Corwin, Notes, p. 57), Mr. E. W. Nelson states that *Turdus* (*Hylocichla*) *aliciæ* Baird is found "across into Kamtschatka"; and a little later he says, "the record of the bird from Kamtschatka renders certain its presence on the adjoining shores of Northeastern Siberia."

I am not aware of any record of this species having ever been found in Kamtschatka, neither do I believe that it has been or ever will be found there. Mr. Nelson's statement probably rests on a mistake. The fact is, that the bird in question really has been found, and found breeding, and rather numerous, in that part of Northeastern Siberia where Nelson only supposes it to be found on account of its alleged occurrence in Kamtschatka.

The Russian Astronomical Expedition to Cape Tschukotsk found *Turdus aliciæ* breeding in the neighborhood of the station, and several specimens were brought to Irkutsk, and by the Geographical Society placed in the University Museum of that city, where they have been seen by Dr. Dybowski. They were destroyed by the great fire at the museum, but at least one specimen had previously been forwarded by that gentleman to the museum of Warsaw. The identity of this specimen was determined by Prof. Dr. Cabanis of Berlin.*

* *Cf.* Taczanowski, Journ. f. Ornith., 1872, p. 440, and 1873, p. 112; *ibid.* Bull. Soc. Zool. France, 1876, p. 148; *ibid.*, Krit. Obz. Ornit. Fauna Vost. Sibiri (1877) p. 32.

II. On the earliest available name of the American Titlark.

I am sorry to be obliged to claim that the appellation *Anthus ludovicanus* (Gm.) is more recent than *Anthus pensilvanicus* (Lath.).

Linnæus did not include the American Titlark in any of the original editions of his 'Systema Naturæ,' although it was both described and figured by earlier authors, viz., G. Edwards, who in his 'Gleanings of Natural History' gave on plate 297 a recognizable figure of a 'Lark' which was sent him from Pennsylvania by Mr. W. Bartram; and upon his plate and description is based Brisson's 'L'alouette de Pensylvanie' (Orn., VI, App., p. 94, No. 13). The 'Red Lark,' No. 140 of the 'British Zoology,' is said to be based on the same. Under the name 'Alouette aux joues brunes de Pensilvanie' Buffon, in 1778 (Hist. Nat, d. Ois., V, p. 58), repeated the description and quoted the plate, but also described (p. 38) a specimen of the same species from Louisiana as 'La Farlouzanne.' Latham, in 1783 (Gen. Synops. of Birds, Vol. II, pt. 2, p. 376), reprints these descriptions, the former as '7. Louisiane Lark,' and the latter as '8. Red Lark,' besides quoting under each heading the synonyms as given above. A reprint of the description of the 'Red Lark' is found in Pennant's 'Arctic Zoology,' II, p. 393 (1785). So far neither of the two alleged species had received any Latin name in accordance with the Linnæan binomial system (on Edward's plate, and in the text of Brisson, it was, however, named *Alauda pensilvanica*); but in 1787 Latham gave the 'Red Lark' the binomial name *Alauda pensilvanica*. It is the general notion that Latham did not use binomials in the Linnæan sense before he employed them in his 'Index Ornithologicus,' published in 1790, two years after Gmelin's 'Systema Naturæ'; but in the 'Supplement to the General Synopsis of Birds' (London, 1787) he gives, on p. 281 *et seq.*, 'A List of the Birds of Great Britain,' and in this list he for the first time applied binomials, coining new names for those which had not previously received such in Linnæus's 'Systema Naturæ.' The new names given by Latham are printed in italics, and reference is given to the descriptions in the 'Synopsis,' the 'Supplement,' and the 'British Zoology.' On p. 287, under 'Genus XXXIX,' we find, as one of "the more rare [British] Birds": "‖Red L[ark]. Synopsis, IV, p. 376. Br. Zool. I, No. 140.

ALAUDA *Pensilvanica*"; and in a footnote he thus explains the appearance of this species in a list of British Birds: "Now and then met with in the neighbourhood of *London*;* but more common in *America*."

It was in 1788 that Gmelin (Syst. Nat., I, p. 173) first applied the name *Alauda ludoviciana* to the 'Farlouzanne' of Buffon, while he, on the following page, bestowed *Alauda rubra* upon the 'Red Lark,' the bird of Edwards's plate. Gmelin knew nothing whatever of these birds, aside from the descriptions quoted above, and his diagnoses are wholly made up from them.

These early synonyms may be cited as follows:—

Alauda pensilvanica, EDW. Glean. pl. 297.
L'aluette de Pensylvanie, BRISS. Orn. VI, App. p. 94, No. 13.
Red Lark, PENN. Brit. Zool. No. 140.
Alouette aux joues brunes de Pensilvanie, BUFF. Hist. Nat. Ois. V, p. 58.
La Farlouzanne, BUFF. *ibid*, p. 38.
Red Lark, PENN. Arct. Zool. II, p. 393, No. 279.
Louisiane Lark, LATH. Syn. II, 2. p. 376, No. 7.
Red Lark, LATH. *ibid.* p. 376, No. 8.

1787.—*Red Lark, Alauda pensilvanica* LATH. Synops. Suppl. I, p. 287.
1788.—*Alauda ludoviciana* GMEL. Syst. Nat. I, 2, p. 793.
1788.—*Alauda rubra* GMEL. *ibid.*, p. 794.
1847.—*Anthus pensylvanicus*, THIENEMANN, Rhea, II, (p. 171).

The American Titlark will therefore stand as

Anthus pensilvanicus (LATH.) THIENEM.

III. A BRIEF REVIEW OF THE SYNONYMY OF THE GENUS *Compsothlypis* (= *Parula*).

Genus **Compsothlypis**† CAB.

1826.—*Chloris* BOIE, Isis, 1826, p. 972. (Type *Sylvia americana* LATH.). (*Nec* MOEHRING, 1752; *nec* SCHWARTZ *quæ* Gramin.; *nec* CUVIER, 1799, *quæ Ligurinus* KOCH.)

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* Instances of its capture in Europe of later years are not very frequent. See Dalgleish, Bull. Nutt. Orn. Cl., 1880, p. 69.

† From Gr. **κομψός** and **θλυπίς**. **κομψός** = cared for, adorned, elegant, from **κομέω**, I take care of (*cfr.* L. *comptus* and *como*), and kindred with **κόμη** (L. *coma*), the hair considered as an ornament for the head. **Θλυπίς**, a name of a bird said to be found in some codices of Aristoteles (VIII, 5. 4) where others have **θραυπὶς**, or **θραπις**, a thistle-eating bird, not determinable (from **θραυω**, I break, with which is kindred **θλάω**, of the same signification, and **θλίβω**, I rub. **Θραυπίς**, **θραπίς**, **θλαπίς**, **θλυπίς**?).—*Com-pso-thly'-pis.*

1827.—*Sylvicola* SWAINSON, Zool. Journ. III, p. 160 (*nec* HARRIS 1782, *quæ* Dipt.; *nec* HUMPHR. 1797; *nec* HÜBN. 1810, *quæ* Moll.).
1838.—*Parula* BONAPARTE, Geogr. Comp. List, p. 20 (Type *Parus americanus* L.). (*Nec Parulus* SPIX, 1824, *quæ Synallaxis*).
1851.—*Compsothlypis* CABANIS, Mus. Hein. I, p. 20, (same type).

Professor Baird (Rev. Am. B., p. 168) and Dr. Coues (B. Color. Vall., I, p. 206) have both acknowledged that *Parula* Bp. is antedated by *Parulus* Spix, believing, however, that Boie's *Chloris*, might stand as the oldest name, "if Moehring's genera are to be rejected as pre-Linnæan." But *Chloris* was already given by Cuvier to a different genus of birds, embracing 'Les Verdiers' or the Green-Finches. Cabanis was therefore correct in stating that the older names were preoccupied, and in creating a new name, which will have to stand.

Before giving a short synopsis of the species, I take pleasure in introducing some remarks furnished me by my friend Robert Ridgway concerning the generic position of two species which have generally been referred to the genus *Parula* or *Compsothlypis*. They are as follows:

"Two Central American species, which have been usually referred to this genus, cannot properly be included; in fact, they apparently are much nearer the genus *Conirostrum* (assigned in the existing 'system' to the *Cœrebidæ*) than to *Compsothlypis*. From the latter they differ in having no trace whatever of a notch to the bill, and in the very slight development of the rictal bristles, both of which features are characters of *Conirostrum*. There are also other differences, which it is unnecessary to mention in the present connection. I do not believe, however, that these birds can be consistently placed in *Conirostrum*, the bill being much stouter, while there are other differences. It therefore seems desirable to give a new name to this group (the two species being apparently congeneric), and I accordingly propose that of *Oreothlypis*, with *Compsothlypis gutturalis* Cab. as type.

"The known species are (1) *Oreothlypis gutturalis* (Cab.) and (2) *Oreothlypis superciliosa* (Hartl.)."

Synopsis.

a^1	Eyelids white	1.	*C. americana.*
a^2	Eyelids dusky or black.		
	b^1 Abdomen white,		
	c^1 Lores gray	2.	*C. insularis.*
	c^2 Lores black	3.	*C. nigrilora.*

b² Abdomen yellow.
c¹ Two white bands on wing . 4. *C. pitiayumi.*
c² Only a trace of white on wings or none at all . . 5. *C. pitiayumi inornata.*

1. **Compsothlypis americana** (LIN.) CAB.

1758.—*Parus americanus* LIN. S. N. ed. 10, p. 190.
1783.—*Motacilla eques* BODD. Tabl. Pl. Enl. p. 46 (Ed. TEGETM.).
1788.—*Motacilla ludoviciana* GMEL. S. N. I, 2, p. 983.
1807.—*Sylvia torquata* VIEILL. Ois. Am. Sept. II, p. 58.
1811.—*Sylvia pusilla* WILS. Am. Orn. IV (p. 17.)
1851.—*Compsothlypis americana* CAB. Mus. Hein. I, p. 20.
Parula americana RIDGW. Nomencl. No. 88.—COUES, Check L. 2 ed. No. 93.—SALV. & GODM. Biol. Centr. Amer. I, p. 119.—SCL. & SALV. Nomencl. Neotr. p. 8.

2. **Compsothlypis insularis** (LAWR.) STGR.

1871.—*Parula insularis* LAWR. Ann. N. Y. Lyc. X, p. 4.
1874.—*Parula pitiayumi* var. *insularis* B. BR. & RIDGW. Hist. N. Amer. B. I, p. 207.
Parula pitiayumi insularis RIDGW. Nomencl. No. 89.
Parula insularis SALV. & GODM. Biol. Centr. Am. I, p. 121.

3. **Compsothlypis nigrilora** (COUES) STGR.

1878.—*Parula nigrilora* COUES, Bull. U. S. Geol. & Geogr. Surv. Terr. IV (p. 11).
1878.—*Parula pitiayumi* var. *nigrilora* COUES. Birds. Color. Vall. I, p. 208.
Parula pitiayumi nigrilora RIDGW. Nomencl. No. 89*a*.
Parula nigrilora COUES, Check L. 2 ed. No. 94.—SALV. & GODM. Biol. Centr. Amer. I, p. 121.

4. **Compsothlypis pitiayumi** (VIEILL.) CAB.

1817.—*Sylvia pitiayumi* VIEILL. N. Dict. d'Hist. Nat. XI, p. 276.
1822.—*Sylvia plumbea* SWAINS. Zool. Ill. II (pl. 139) (*nec* LATH.).
1823.—*Sylvia brasiliana* LICHT. Doubl. Verzeichn. p. 35.
1838.—*Sylvia venusta* TEMM. Pl. Col. III, fol. ed. pl. 293, fig. 1.
1851.—*Compsothlypis pitiayumi* CAB. Mus. Hein. I, p. 21.
1874.—*Parula pitiayumi* var *pitiayumi* B. BR. & RIDGW. Hist. N. A. B. I, p. 207.
Parula pitiayumi SCL. & SALV. Nomencl. Neotr. p. 8.

5. **Compsothlypis pitiayumi inornata** (BAIRD) STGR.

1860.—*Parula brasiliana* SCL. & SALV. Ibis, 1860, p. 397 (*nec* LICHT.).
1864.—*Parula inornata* BAIRD, Rev. Am. Birds, I, p. 171.
1874.—*Parula pitiayumi* var. *inornata* B. BR. & RIDGW. Hist. N. A. B. I, p. 208.
Parula inornata SALV. & GODM. Biol. Centr. Amer. I, p. 120.—SCL. & SALV. Nomencl. Neotr. p. 8.

IV. On the earliest available Name of the Cardinal Grosbeak.

In Scopoli's 'Annus I, Historico-Naturalis' (Leipzic, 1769) we find, on pages 139 and 140, the following description: —

"203. LOXIA RUBRA.

Loxia rubra, facie nigra. *Linn.* l. c. n. 5.

DIAGN. *Tota rubra, una cum rostro.*

Femora tamen magis fusca.

[p. 140] In M. T.

Apta nomina rebus inponenda; nec innocens studium sit turpe instrumentum, quo religio aliqua ludibrio exponatur."

The following is a correct translation, with the addition of the full explanation of the abbreviations:—

"203. **Loxia rubra.**

Red grosbeak, with black face. LINN., Syst. Nat. ed. 12, I, p. 300, n. 5.

DIAGN. Red all over in common with the bill. Thighs, however, more dusky.

In the Museum of Count von Thurn (in museo excell. comitis Francisci Annib. Turriani).

One ought to give appropriate names; in order that the innocent science shall not become the infamous means of exposing any religion to ridicule."

It may be well at once to append here, for the benefit of the reader, the footnote,* with which the German translator, Dr. T. C. Günther, thought it necessary to explain the sentence above. He says:

"This sentence of our author is incomprehensible to any one who does not know beforehand that this American bird, in Holland and England, is called the Cardinal, on account of its beautiful red color. We have made this remark, although we ourselves are of the same opinion, that things offensive to any religion should be omitted in every science" (!). What would Messrs. Scopoli and Günther say if they could rise from their graves, and see that we use *Cardinalis* as a generic name, and that some heretics are not opposed to the specific appellations *Carduelis carduelis* and *Cardinalis cardinalis igneus?*

In fact, the bird which Linnæus describes as No. 5 of the genus *Loxia*, in his 'Syst. Nat.' (ed. 12, p. 300), is none other than the

* p. 168, footnote *k*, of Johann Anton Scopoli ..... Bemerkungen aus der Natur-Geschichte, Erstes Jahr, ... aus dem Lateinischen übersetzt und mit einigen Anmerkungen versehen von *D.* Friedrich Christian Günther ..... Leipzig .... 1770.

Cardinal Grosbeak—*Cardinalis virginianus* Bp: "Loxia cardinalis 5. L. cristata rubra, capistro nigro, rostro pedibusque sanguineis . . . . Coccothraustes rubra. *Catesb. car.* I. *p.* 38. *t.* 38 . . . . *Habitat in* America *septentrionali* . . . ." Bonaparte's name *virginianus* dates from 1838; Scopoli's *rubra* from 1769. As the case does not involve any doubt, and the synonymy is clear, I shall only briefly enumerate the forms mentioned in Baird, Brewer, and Ridgway's 'History of North-American Birds' (III, p. 99). Their names will stand as follows:

1. *Cardinalis ruber* (SCOP.).
   RIDGW. Nomencl. n. 242.—COUES, Check list, 2 ed. n. 299.
2. *Cardinalis ruber igneus* (BAIRD).
   RIDGW. *l. c.* n. 242*a*.—COUES, *l. c.* n. 300.
3. *Cardinalis ruber coccineus* (RIDGW.).
4. *Cardinalis ruber carneus* (LESS.).

It will be seen that the gender of the genus-name is given as masculine. Dr. Coues, in the second edition of the 'Check list' (p. 60), writes '*Cardinalis virginiana*,' and remarks: "As a Latin word, *Cardinalis* is only an adjective; used substantively, its gender is either masculine or feminine. We take the latter, because most words ending in *is-* are feminine."

But, in the first place, as the name *Cardinalis* is "applied with obvious signification to the chief officials of the Pope," its gender ought to be masculine, as is that of these "red-wearing dignitaries;" and in the second place, *Cardinalis* "Bp. 1838," is undoubtedly masculine, as this author writes '*Cardinalis virginianus*.' In the special sense of genus-name for the Red Grosbeaks it certainly is masculine, and if it is the *rule* that "words ending in *is-* are feminine," this word belongs most emphatically to the *exceptions*. We are more satisfied as to the correctness of this opinion, since Dr. Coues himself states that the gender of *cardinalis* is 'either masculine or feminine.'

V. MORE "ORNITHOPHILOLOGICALITIES."

Without further comment I offer the following supplemental notes about the derivation of some of the systematic names of North American birds, which may perhaps be of value in relation to the discussion at present being carried on.

No. 595. *Hæmatopus ostrilegus.*—Sundevall's emendation is *ostreologus*. There is no need of emending Linnæus's name into *ostrilegus*, as he so wrote it himself in the 'Fauna Svecica,' 2nd ed., p. 69 (1761).

No. 598. *Strepsilas interpres.*—*Interpres* is a translation of the Swedish vernacular name 'tolk,' interpreter. Nilsson informs us, however, that Linnæus was mistaken in applying it to this bird, as it is *Totanus calidris* which in Sweden is called 'tolk,' on account of its loud voice, by means of which it warns the other birds from the skulking gunner (Skand. Fauna Fogl., 3d ed. II, p. 171).

No. 606. *Scolopax rusticula. Rusticola* was 'emended' into *rusticula* as early as 1779 by Bock in 'Naturforscher,' XIII, p. 211, and he was followed by Gloger, Naumann, Schilling, and Cabanis, the latter also informing us that it was written so by the Romans—Plinius, Columella, etc. (J. f. Orn., 1853, p. 374).

No. 678. *Porzana maruetta.*—'Marruette,' as the French write it, seems to be rather of Spanish origin than Italian. The Spanish word *marjál* (pronounced *marshal*) means a marsh (Fr. *marais*). Or it may simply be derived from *mar*, = sea, large lake, and the ending *éta* (*cf. gallinéta*). Another similar word, *marhojo*, is said to mean moss.

No. 690. *Cygnus musicus.*—The term *musicus* is applied in allusion to the alleged song of the dying swan (*cf.* Aristoteles, Hist. Amin., lib. IX, c. 12).

No. 712.—Linnæus wrote *penelope* in 1758, and *penelops* in 1761.

No. 728. *Harelda.*—This is probably only a typographical error for *Havelda*, which is the Icelandic and Norwegian name of the bird, *Hav* meaning sea, ocean.

No. 739. *Perspicillata.*—After all, Dr. Coues did not 'guess aright,' even 'as a matter of fact.' It is true it does not mean "spotted, as if covered with looking-glasses," but simply "supplied with spectacles" (*perspicilla* of mediæval or later Latin = spectacles). The definition is clearly given in Steller's and Pallas's descriptions of *Phalacrocorax perspicillata:* "Circulo cutaneo oculos ambiente albo . . . . Ob oculorum circulos quasi perspicilla referentes . . . . ridicula admodum avis . . . . Foemina minor, crista perspicilloque destituta." (Zoogr. Ross. Asiat., II, p. 305).

No. 746. *Sula.*—Nilsson says: "*Sula* or *Sulu* is an old Norwegian word still in use in the mountains, and means swallow. *Havsula* is then sea-swallow, the name having been applied to this bird on account of its high and beautiful flight; the Black Stork is for the same reason called 'Odin's Swallow.'" (Skand. Fauna Fogl., 3 ed. II, p. 510.)

No. 765. *Stercorarius pomatorhinus.*—Temminck's *pomarinus* might perhaps have a similar derivation as *pomoerium*, from *post* and *moerium*, or *pomeridionalis*, from *post* and *meridionalis*. It may also be mentioned that *pomarinus* is a by no means uncommon form for *pomeranus*. It is most probable that Temminck never thought of a derivation from πῶμα and ῥίς, as first suggested by Preyer and Zirkel (not Newton).

SMITHSONIAN INSTITUTION,
Washington, D. C., Feb. 13, 1884.

BIRD NOTES FROM LONG ISLAND, N. Y.

BY WILLIAM DUTCHER.

FOR the purpose of determining the date of migration, the species migrating, and the numbers that are destroyed by striking a light-house during a spring and fall migration, I have for the past two years received all the birds killed by flying against Fire Island Light. This light is of the first order, flashing white every minute; is 168 feet above the level of the sea, and is visible 19¼ nautical miles. It is located on the east side of Fire Island Inlet, south side of Long Island, N. Y., north latitude 40° 37′ 57″, west longitude 73° 13′ 9″.*

I also received from Great West (or Shinnecock) Bay Light part of those that were killed the night of September 30, 1883. This light is also of the first order, but is a fixed white light; is 160 feet above the sea level, and is visible 18¾ nautical miles. It is located 45 miles east of Fire Island Light, on the main land, about one mile north of the beach. Fire Island Light is built on the beach, which is separated from the main land by Great South Bay, which is here some six miles wide. I am not aware that a fully identified list of the birds striking any lighthouse has ever been published; the only work of this nature for the United States being the reports of a few light keepers (the birds not being identified), collated and published by Mr. J. A. Allen,† and the reports by Messrs. John A. Harvie Brown, John Cordeaux, and others for the British Islands.‡

The records herewith submitted cover so short a period that nothing can be deduced from them at the present time. I am

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* List of Lighthouses, Lighted Beacons, and Floating Lights of the Atlantic, Gulf and Pacific Coasts of the United States. Washington: Government Printing Office, 1883.

† Destruction of Birds by Lighthouses. By J. A. Allen. Bulletin of the Nuttall Ornithological Club, Vol. V, p. 131, 1880.

‡ Report on the Migration of Birds in the Autumn of 1879. By John A. Harvie Brown and John Cordeaux. The Zoologist, Vol. IV, May, 1880.

Report on the Migration of Birds in the Spring and Autumn of 1880. By John A. Harvie Brown, F.L.S., F.Z.S., John Cordeaux, and Philip Kermode. London, 1881.

Report on the Migration of Birds in the Spring and Autumn of 1881. By John A. Harvie Brown, Mr. John Cordeaux, Mr. Philip M. C. Kermode, Mr. R. M. Barrington, and A. G. More. London, 1882.

indebted for the notes and birds received during 1882, and in the spring of 1883, to Mr. C. A. Blydenburgh, First Asst. Keeper, and in the autumn of 1883, to Mr. S. R. Hubbard, Keeper of Fire Island Light. They are both deserving of thanks for the pains they have taken to keep accurate records, and also for sending me all the birds it was possible to secure.

SPRING MIGRATION, 1882.

"Some Robins and other small birds came against the tower one night this week; none were killed. I think these were the first small birds of the season."—C. A. B., March 16.

"I have not been able to get a single bird since I wrote to you last. We have had no bad weather since the flight of small birds commenced."—C. A. B., April 18.

"I am sorry to keep you without birds. I see plenty, but the nights are so clear that they do not strike the tower."

May 9. Wind N. E. Rain.

Galeoscoptes carolinensis, 1.
Siurus auricapillus, 1.
Zonotrichia leucophrys, 1.
Zonotrichia albicollis, 4.
Spizella domestica, 1.
Melospiza lincolni, 3.
Pipilo erythrophthalmus, 1.
Tringoides macularius, 1.

"I send you thirteen birds which struck against the tower last night. A great many struck, but these are the only dead ones."—C. A. B., May 10.

"We have had bad weather all the time since I sent you the birds. It has been too rough for small birds to fly."—C. A. B., May 15.

May 18 and 19. Wind N. E. Hazy.

Harporhynchus rufus, 1.
Siurus nævius, 3.
Geothlypis trichas, 2.
Pipilo erythrophthalmus, 1.
Rallus longirostris crepitans, 3.

"I forward you ten birds which struck during the past two nights. Quite a number more struck, but it was impossible to get them. Many fall in the grass at some distance from the foot of the tower, and cannot be found until after they are spoiled."—C. A. B., May 20.

May 20 and 21. Wind N. E. Cloudy and thick.

Harporhynchus rufus, 1.
Parula americana, 1.
Geothlypis trichas, 2.
Setophaga ruticilla, 1.

Total in spring migration, 28.

AUTUMN MIGRATION, 1882.

"I begin to hear birds about nights, but we have had no weather to get any yet. If we were to have a foggy night you would hear from me at once."—C. A. B., Aug. 11.

Aug. 13. Wind, not given. Calm and clear.

Dendrœca æstiva, young, 1.

Aug. 14. Wind N. Clear.

Siurus nævius, 1.

Aug. 20. Wind N., fresh. Clear.
Ammodromus maritimus, 1.

Sept. 3. Wind S. W., fresh. Foggy.
Dendrœca pinus, 1.
Gulls, sp.? 3. (Probably Terns of some kind. The birds were not sent to me.)

Sept. 9. Wind S. E., light. Thick.
Dendrœca striata, 3.
Siurus auricapillus, 2.
Siurus nævius, 6.
Geothlypis trichas, 2.
Setophaga ruticilla, 1.
Vireosylvia olivacea, 1.
Passerculus sandwichensis savanna, 1.
Porzana carolina, 1.

Sept. 10. Wind S. E., light. Thick.
Dolichonyx oryzivorus, 1.
Porzana carolina, 1.

Sept. 13. Wind, not stated. Weather, not stated.
Geothlypis trichas, 1.

Sept. 16. Wind N. E., moderate. Clear.
Siurus nævius, 1.
Ampelis cedrorum, 1.

Sept. 20. Wind S. E., moderate. Hazy.
Hylocichla unalascæ pallasi, 1.
Mniotilta varia, 1.
Parula americana, 8.
Dendrœca æstiva, 1.
Dendrœca maculosa, 1.
Dendrœca discolor, 1.
Siurus auricapillus, 1.
Siurus nævius, 1.
Geothlypis trichas, 8.
Setophaga ruticilla, 2.
Vireosylvia olivacea, 21.
Lanivireo flavifrons, 1.
Vireo noveboracensis, 2.
Melospiza palustris, 1.
Ampelis cedrorum, 1.
Porzana carolina, 3.
Sp.? 22. (Birds not sent to me.)

Sept. 21. Wind S. E., moderate. Rain.
Parula americana, 1.
Vireosylvia olivacea, 3.

Sept. 24. Wind, ? Weather, ?
Siurus nævius, 1.
Vireosylvia olivacea, 1.

Sept. 25. Wind N. E., blowing hard. Rain.
Sp. ? 3. Birds not sent to me.

Oct. 6. Wind, E., moderate. Hazy.
Vireosylvia olivacea, 1.
Melospiza fasciata, 1.
Sp. ? 2 (Birds not sent to me.)

Oct. 11. Wind N. E., moderate. Thick.
Hylocichla ustulata swainsoni, 2.
Galeoscoptes carolinensis, 1.
Anthus ludovicianus, 1.
Parula americana, 4.
Dendrœca coronata, 4.
Dendrœca striata, 2.
Geothlypis trichas, 6.
Vireosylvia olivacea, 2.
Lanivireo solitarius, 1.
Chrysomitris pinus, 1.
Passerculus sandwichensis savanna, 6.
Melospiza palustris, 5.
Sp.? 6. (Birds not sent to me.)

Oct. 12. Wind N. E., fresh. Cloudy.
Dendrœca coronata, 1.

"There are a great many birds on the wing now, and if we could have a foggy night I could get you plenty."—C. A. B., Oct. 13.

Oct. 13. Wind N. E., fresh. Rain.
Dendrœca coronata, 2.
Dendrœca striata, 1.
Geothlypis trichas, 1.
Passerculus sandwichensis savanna, 1.
Melospiza fasciata, 1.
Vireosylvia olivacea, 1.

Oct. 15. Wind N. E., fresh. Cloudy.
Sterna fluviatilis, 1.

Oct. 18. Wind N., moderate. Hazy.
Vireosylvia olivacea, 1.

"A number of Big Yellow-legs passed last night."—C. A. B., Oct. 19.

Oct. 20. Wind N. E., moderate. Cloudy.
Dendrœca striata, 1.

Oct. 21. Wind? Weather?
Geothlypis trichas, 1.

Nov. 5. Wind N. E., fresh. Cloudy.
Chrysomitris pinus, 1.

Nov. 10. Wind N. E., moderate. Hazy.
Dendrœca cærulescens, 1.
Dendrœca coronata, 11.
Passerculus sandwichensis savanna, 1.

Nov. 12. Wind N. W., fresh. Cloudy.
Podiceps holboelli, 1.

Nov. 16. Wind N. E., moderate. Cloudy and rainy.
Spizella montana, 1.
Passerella iliaca, 2.

Nov. 30. Wind? Weather?
Harelda glacialis, 1.

Dec. 2. Wind N. W. Hazy.
Regulus satrapa, 1.
Junco hyemalis, 36.

Dec. 10. Wind N. E., moderate. Rain.
Harelda glacialis, 1.

Total in Autumn migration, 228.

Total in Spring migration, ...	28
Total in Autumn migration, ...	228
Total for year, ...	256
Species in Spring, ...	14
Species in Autumn, ...	38

SPRING MIGRATION, 1883.

Jan. 4. Wind N., fresh. Snowy.
Ducks, sp. ? 2. (Birds not sent to me.)

Jan. 5. Wind N. E., fresh. Snowy.
Clangula glaucium americana, 1.

Jan. 13. Wind S. W., fresh. Rainy.
Scoter, sp? 1. (Bird not sent to me.)
Clangula glaucium americana, 1.

Jan. 24. Wind W., moderate. Cloudy.
Mergus serrator, 1.

Feb. 14. Wind? blowing hard.
Plectrophanes nivalis, 1.

Feb. 27. Wind N. W., fresh. Snowy.

Sp.? 1. (Bird not sent to me.)

Plectrophanes nivalis, 1.

March 3. Wind N. W., fresh. Clear.

Fulix marila, 3.

April 4. Wind S. W., fresh. Showery.

Passerella iliaca, 3. Junco hyemalis, 1.
Melospiza fasciata, 1. Merula migratoria, 2.

April 7. Wind N., moderate. Cloudy.

Sayornis fuscus, 2.

April 11. Wind N. E., fresh. Foggy.

Œdemia americana, 1.

April 14. Wind S. E., moderate. Cloudy.

Passerculus sandwichensis savanna, 2.

May 14. Wind S. E. Rain and light fog.

May 15. "Wind N. E. to N. Rain and fog. Cleared off at 11 P. M. No birds struck after the fog cleared away; although I saw a great many flying in the rays of the light, they did not strike hard enough to be killed."— C. A. B.

Siurus auricapillus, 2. Vireosylvia olivacea, 1.
Siurus nævius, 1. Pyranga rubra, 3.
Geothlypis trichas, 5. Totanus melanoleucus, 1.
Myiodioctes canadensis, 1. Sp.? 7. (Birds stolen in transit.)

Total in spring migration, 45.

AUTUMN MIGRATION, 1883.

"I see that small birds are on their course, but they want a thick night to strike."— S. R. H., Aug. 22.

Aug. 29. Wind E. N. E. Cloudy.

Siurus nævius, 1.

"This is the only bird which struck last night that was killed."—S. R. H., Aug. 30.

Sept. 1. Wind, not stated. Weather, not stated.

Dendrœca pinus, 1.

Sept. 9. Wind N. E., fresh. Clear.

Hylocichla unalascæ pallasi, 1. Geothlypis trichas, 1.
Siurus nævius, 1.

Sept. 13. Wind N. E., strong. Rain.

Parula americana, 1. Vireosylvia olivacea, 1.
Siurus auricapillus, 1.

"There don't appear to be any birds on the course."— S. R. H.

Sept. 29. Wind N. E., moderate. Cloudy.

Hylocichla fuscescens, 3. Siurus auricapillus, 5.
Hylocichla aliciæ, 8. Geothlypis trichas, 4.
Hylocichla ustulata swainsoni, 3. Vireosylvia olivacea, 9.
Dendrœca striata, 5. Pyranga rubra, 1.
Dendrœca blackburniæ, 1. Coccyzus erythrophthalmus, 1.
Dendrœca virens, 2. Rallus virginianus, 1.

"I did not know as any more would strike. I have never in my stay here seen so few birds strike in a fall."— S. R. H., Sept. 29.

Sept. 30. Wind varying N. to E. Thick to rain.

Hylocichla fuscescens, 29.
Parula americana, 2.
Dendrœca striata, 230.
Siurus auricapillus, 3.
Oporornis agilis, 16.
Vireo noveboracensis, 20.
Pyranga rubra, 7.
Sayornis fuscus, 2.
Sphyropicus varius, 1.
Ceryle alcyon, 1.
Coccyzus erythrophthalmus, 9.
Charadrius dominicus, 1.

"I send you a box of birds which struck Sunday night, Sept. 30. It is the first regular flight this fall, when the weather has been favorable for them to strike. I send one bird I don't remember to have ever seen strike before, viz., a Kingfisher."— S. R. H., Oct. 1.

Oct. 4. Wind N. W., moderate. Hazy.

Hylocichla ustulata swainsoni, 1.
Parula americana, 2.
Vireosylvia olivacea, 6.
Pyranga rubra, 1.

Oct. 12. Wind N. E., fresh. Storming.

Hylocichla ustulata swainsoni, 25.
Dendrœca cærulescens, 48.
Oporornis agilis, 18.
Vireosylvia olivacea, 15.
Pyranga rubra, 7.
Passerculus sandwichensis savanna, 17.

Nov. 11. Wind, not stated. Thick fog and rain.

Regulus calendula, 3.
Junco hyemalis, 1.
Eremophila alpestris, 1.

Total in Autumn migration, 517,

Total in Spring migration,	45
Total in Autumn migration,	517
Total for year,	562
Species in Spring,	21
Species in Autumn,	27

AUTUMN MIGRATION, 1883.

Shinnecock Bay Light.

Sept. 30. Wind N. to E., varying. Thick to rain.

Hylocichla fuscescens, 1.
Hylocichla aliciæ, 2.
Hylocichla ustulata swainsoni, 1.
Parula americana, 1.
Dendrœca striata, 59.
Siurus auricapillus, 1.
Oporornis agilis, 3.
Geothlypis trichas, 1.
Vireosylvia olivacea, 4.
Pyranga rubra, 2.
Sp. ? about 85. (Birds not sent to me.)

Total, 160.

"I send you 75 birds. — About 160 struck Sunday night, Sept. 30, but a great many were spoiled by the rain-storm."— L. G. Squires, Oct. 1.

CHARACTERS OF A NEW SPECIES OF PIGEON OF THE GENUS *ENGYPTILA*, FROM THE ISLAND OF GRENADA, WEST INDIES.

BY GEORGE N. LAWRENCE.

Engyptila wellsi.

Female: The front is whitish, with a slight tinge of fawn color on the anterior portion, and is of a bluish cast on the posterior; the crown and occiput are dark brown; the hind neck is of a rather lighter brown; the back, wings, and upper tail-coverts are of a dull olivaceous-green; the first outer tail-feather is brownish-black, narrowly tipped with white; the second is dark brown for two-thirds its length, terminating in blackish; all the other tail-feathers are dark umber brown above, are black underneath; the chin is white; the neck in front and the upper part of the breast are of a reddish fawn color; the middle and lower parts of the breast and the abdomen are creamy-white; the sides are of a light fulvous color; the under tail-coverts are white, tinged with fulvous; the quills have their outer webs of a clear warm brown; the inner webs and under wing-coverts are of a rather light cinnamon color; the bill is black; the tarsi and toes are bright carmine red.

Mr. Wells says the sexes are alike. Length 10.25 inches; wing, 6.00; tail, 4.00; bill, .63; tarsus, 1.25.

Habitat: Island of Grenada.

Type in National Museum, Washington.

Remarks. In coloration this species bears no resemblance to any other member of the genus; it is of about the size of my *E. cassini* from Panama, and like that, it has the front light colored (though of a different shade) and the chin white; but they are unlike in all other particulars.

I have named it in compliment to James G. Wells, Esq., of Grenada, by whom it was obtained.

Mr. Wells has been collecting the birds of Grenada for some time, and sending them for identification as they were procured, having in view the publication of a list of the birds of the Island, with his observations thereon.

Sometime since Mr. Wells sent me as complete a list of the birds of the Island as he was able to make out at that time. On this list one of the species was enumerated as 'Pea Dove' but no specimens of it were ever sent. I wrote him that its determination was important, and to endeavor to procure examples. He replied that he was unable then to visit the district inhabited by

it. But a few days ago I was much pleased to receive by mail the specimen now described, and agreeably surprised to find it an undetermined species.

He says: "Since I last wrote you, I have been able to procure four live specimens of the Dove, called 'Pea Dove' in my list; one of them died a day or two ago, and I send you the skin, which will serve to identify the bird."

On the label is "Pea Dove, ♀, Sp.? Caught alive at Fontenoy, St. Georges, Grenada, 16 Feb., 1884. Iris pale buff."

RECENT LITERATURE.

Stejneger on the American Turdidæ.*—The so-called 'family' Turdidæ is here taken in nearly its usually accepted sense, except that the Mimi-næ, so frequently embraced within it, are excluded, leaving the group as here treated nearly equivalent to the Turdinæ of Mr. Seebohm's late mono-graph of the family.† Dr. Stejneger begins his memoir by sharply criti-cizing Mr. Seebohm's generic groups among the 'Turdinæ,' the construc-tion of which he considers "very radical and opposed to commonly accept-ed views"; and states that his own paper "may be regarded as a reaction provoked by the arrangement proposed in the above mentioned work." Dr. Stejneger believes that the test "of color or pattern of color as the only character which indicates near relationship," as applied by Mr. Seebohm, is arbitrary and leads to inconsistent results; and he devotes several pages to 'showing up' some of these inconsistencies, and in pointing out that structural characters are much sounder indices of re-lationship. He believes that Professor Baird's arrangement of the Ameri-can Thrushes, in his 'Review of American birds,' though presented 'six-teen to eighteen years ago,' 'is still the best treatment of the subject extant.' He modifies this arrangement, however, by throwing out the Mocking Thrushes, and adding the so-called 'family' Saxicolidæ. In this he is in accord with the views of several recent writers on the subject. The family Turdidæ, as thus restricted, he divides into two sub-families, viz., Turdinæ (sub-divided into the groups Sialieæ, Saxicoleæ, Turdeæ, Luscinieæ, and Meruleæ), and Myadestinæ (sub-divided into Platycichleæ and Myadesteæ). The group Sialieæ includes two genera.—*Ridgwayia* (gen. nov., type *Turdus pinicola* Scl.) and *Sialia*. The group Saxicoleæ

* Remarks on the Systematic Arrangement of the American Turdidæ. By Leon-hard Stejneger. Proc. U. S. Nat. Mus., 1882, pp. 449-483, with numerous cuts. Feb. 13, 1883.

† Catalogue of Birds in the British Museum, Vol. V, 1881. (See review of this work in Bull. Nutt. Orn. Club, VIII, pp. 99-104.)

is represented in North America by the single genus *Saxicola*, but includes the Old World genera *Pratincola*, *Ruticilla*, etc. The group Turdeæ includes the three genera *Hylocichla*, *Turdus*, and *Hesperocichla*. The group Luscineæ has for American representatives the genus *Catharus*, and possibly *Cyanecula*, which has been supposed to occur in Alaska. The Meruleæ includes *Merula*, *Semimerula*, *Cichlherminia*, and *Mimocichla*. The Platycichleæ includes *Cossyphopsis* (gen. nov., type *Turdus reevei* Lawr.), *Platycichla*, and *Turdampelis*. The Myadesteæ contains the single genus *Myadestes*, from which, however, *M. leucotis* (Tschudi) is removed, being transferred, as the type of a new genus *Entomodestes*, to the Ptilogonatidæ. As regards the much 'emended' name *Myadestes*, Dr. Stejneger revives Swainson's original orthography, which he maintains is correct.

The genus *Cichlherminia*, as Dr. Stejneger observes, has been regarded as an intermediate link between the true Thrushes and the Mocking Thrushes. But he affirms that this has resulted from the fact that very diverse species have been associated under *Cichlherminia* (vel *Margarops*), a part of which are true Thrushes and part Mocking Thrushes. *Cichlherminia* (type *C. herminieri*), in a restricted sense, is retained among the Turdinæ, while the other species, forming the restricted genus *Margarops*, are placed among the Miminæ, the former alone being found to have a booted tarsus.

Dr. Stejneger's synopsis of the family extends only to the genera and higher groups as represented in America. The generic synonymy is fully given, and the generic diagnoses are supplemented by general remarks and figures illustrative of the principal generic characters.—J. A. A.

Coues on the Structure of Birds' Ears.—Dr. Coues, in a series of three articles recently published in 'Science,'* gives a clear and detailed account of the mechanism of the ear in birds, taking the human ear as the chief basis of comparison. The articles are illustrated with figures—after Parker and Ibsen—which aid greatly to a clear conception of the structures described.—J. A. A.

Jeffries on the Epidermal System of Birds.†—Mr. Jeffries's paper, of nearly forty pages and three plates, reports the results of his studies of the epidermal appendages in birds, with reference to their structure, development, and homologies. These appendages embrace the feathers, scuta, claws, spurs, toe-pads, bill, combs, wattles, and the spines of the tongue and mouth, which have been studied as found in the adult, and their development traced from the fourth day of incubation. The structure of mature feathers is not considered, this part of the subject having already received so much attention. Mr. Jeffries's investigations have

* A Hearing of Birds' Ears. By Elliott Coues. Science, Vol. II, Nos. 34, 38, and 39, pp. 422-424, 552-554, 586-589, Sept. 28, Oct. 26, Nov. 2, 1883, figg. 9.

† The Epidermal System of Birds. By J. Amory Jeffries. Proc. Boston Soc. Nat. Hist., Vol. XXII, pp. 203-240, pll. iv-vi. Dec. 1883.

been based mainly on the common chick and duckling, yet many forms in other orders have been examined, and in all cases found to agree so closely with the two types specially investigated, that "any statement made for the chick may in all probability be extended to cover the entire group of carinate birds."

The scope and character of the paper may be further indicated by the following transcript of its sub-headings:—

(1) Adult Skin; (2) Development of the Epiderm; (3) Development of Embryo Feathers; (4) Development of Pinfeathers; (5) Scuta; (6) Development of Scuta; (7) Claws; (8) Development of Claws; (9) The Bill; (10) Development of the Bill; (11) Combs and Wattles; (12) Spurs; (13) Toe-pads; (14) Spines of Mouth; (15) Summary; (16) Bibliography. The literature of each special subject is first passed in review, then the adult structure of the part is considered, and finally its mode of development. The morphology of the various appendages is treated in the general 'Summary.'

Many authors have assumed *à priori* that scuta are morphologically identical with the scales of reptiles,—a proceeding our author claims to be 'totally unscientific,' and pronounces the evidence against this view to be overwhelming. Neither are spurs "to be classed as modified scuta, as has been done by those who consider scuta and scales to be the same thing."

The modern view of feathers and hairs is that they are allied structures, though Gegenbauer speaks of them as divergent structures. "It is now known, however, that their early stages are the exact reverse of each other." For various reasons our author "considers feathers and hairs as *distinct* structures." Feathers and scuta are also said to be not homologous; the former originate as papillæ, the latter as folds, and so remain through life. "At no period .... is there the slightest resemblance in form"; while "all the peculiarities of the mucous layer separate the feather from the scale." The "fact that feathers grow upon scuta shows them to be distinct structures."

In closing the author says: "I am well aware that at the present time, when the tendency is to ascribe everything to one common origin, the above conclusions will be distasteful to many. Yet, when examples of the separate origin of like structures—analogous organs—are so abundant, it seems rash to consider a slight resemblance a proof of genetic relationship." The fact that "Amphibians, from which the higher groups have probably been derived, have no special epidermal appendages except perhaps claws," he considers a "strong argument against the identity of any of the avian dermal appendages with those of Reptiles or Mammals."—J. A. A.

Shufeldt on the Osteology of the Mountain Plover.*—This is another of Dr. Shufeldt's osteological monographs, in which a member of the Plover

* Observations upon the Osteology of *Podasocys montanus*. By R. W. Shufeldt, M. D., Captain Medical Corps U. S. Army [etc., etc.]. Journ. Anat. and Physiol., Vol. XVIII, pp. 86-102, pl. v.

family is treated with the customary fullness of detail characteristic of his previous memoirs on various species and groups of North American birds. The beautiful plate gives four views of the skull, two of the sternum, and views of the principal bones of the extremities, all of natural size. The paper is mainly descriptive, but comparisons are made between the species treated and a few allied forms, notably with *Charadrius pluvialis*, from which *Podasocys montanus* presents slight differences in certain bones of the skull.—J. A. A.

Townsend on the Birds of Westmoreland County, Penn.*—"The species enumerated represent perhaps not more than two-thirds of the actual birds of Westmoreland County"; the list being based on rather limited opportunities for observation, and restricted to species 'identified with certainty.' The region embraces a portion of Chestnut Ridge, a range of the Alleghanies, extending through the southeastern part of the county; but this interesting portion of the field is very imperfectly reported upon. The list, numbering 136 species, is rather too sparingly annotated, especially in respect to the season of sojourn of many of the species; but we are led to hope that this may be but the forerunner of a fuller report.—J. A. A.

Bulletin of the Buffalo Naturalists' Field Club.—This, as its title indicates, is the organ of the Club whose name it bears. It is a large octavo publication, under the editorial management of D. S. Kellicott, Eugene E. Fish, and Mrs. Dr. Mary B. Moody. The paper, typography, and presswork are good, and the general appearance of the magazine is attractive. The first five numbers have been received, and are dated respectively January (double number), March, May, and September, 1883.

The publication is devoted to general natural history, and contains excellent articles upon various branches of zoölogy, botany, geology, and anthropology. The first paper in the first number is on the 'Nesting Habits of Birds,' by E. E. Fish, and contains much of interest to the oölogist. Mr. Fish calls attention to the fact that "Several species of birds that nest before the leaves are out, choose evergreens for their first brood, and if a second is raised it is generally in a deciduous bush, or tree." He adds: "Last spring the leaves were late in coming out, and of the first hundred nests that I examined, principally of Robins and Chipping-birds, ninety of them were in evergreens; a month later the number was nearly reversed." A few careless statements have crept in. For example, it is said that the Hummingbird covers the outside of its nest "with little patches of moss." The generic and specific names of the Red-headed Woodpecker are transposed.

In an article upon 'Field Club Work in Western New York,' Professor Charles Linden mentions, incidentally, the occurrence of the "Eider Duck, King Duck, Velvet Scoter, Old Wife, Trumpeter Swan, Snow

* Notes on the Birds of Westmoreland County, Penna. By Charles H. Townsend. Proc. Acad. Nat. Sci. Philadelphia, 1883, pp. 59-68.

Goose, Curlews, White Owls, and Egrets," at the foot of Lake Erie and on Niagara River (p. 35).

Each number of the Bulletin has a department of 'Ornithological Notes,' which, with one exception, are from the pen of Mr. Fish. (For further reference to these see 'Minor Ornithological Publications' in this number of 'The Auk,' Nos. 595-607.)

Minor Ornithological Publications. — Volume III* of the 'Canadian Sportsman and Naturalist' contains the following (Nos. 523-543) :—

523. [*Birds of Western Ontario.*] By T. McIlwraith. *Ibid.*, III, pp. 198-200, 207.— Remarks on various species, with a comparison of the Hamilton and London lists. In all 260 species have been observed. (See also *anteà*, p. 85).

524. *Ornithological Notes.* By Ernest D. Wintle. *Ibid.*, III, p. 200. —A pair of White-bellied Swallows lay 13 eggs; Catbirds laying spotted eggs; "two species of Crow Blackbird in Canada," but the supposed occurrence of *Quiscalus major* is doubtless erroneous, as stated by Everett Smith (*Ibid.*, III, p. 207). (See below, No. 526.)

525. *The Wood-thrushes (Hylocichla) of New Brunswick.* By M. Chamberlain, St. John, N. B. *Ibid.*, III, pp. 201-203.—(Previously published in the 'Ornithologist and Oölogist,' VII, pp. 185-187.)

526. *Crow Blackbird.* By Everett Smith. *Ibid.*, III, p. 207.— The Boat-tailed Grackle not yet taken in Canada. (See *anteà*, No. 524.) On page 208 W. E. Saunders and W. W. Dunlop, under the same caption, write to the same effect.

527. *List of Birds ascertained to occur within ten miles from Point de Monts, Province of Quebec, Canada; based chiefly upon notes of Napoleon A. Comeau.* By C. Hart Merriam, M. D. *Ibid.*, III, pp. 208-212.—(From Bull. Nutt. Orn. Club, VII, Oct. 1882.)

528. *The Hudsonian Chickadee.* (*Parus hudsonicus.*) By Montague Chamberlain. *Ibid.*, III, pp. 215-217.—Biography of the species.

529. *Birds of Western Ontario.* By John M. Morden. *Ibid.*, III, p. 216. —On *Lanius borealis*, *Regulus calendula*, and *Circus hudsonius*. Supposed young of former, taken near Hyde Park, doubtless were *L. ludovicianus*.

530. *Notes on the breeding of the Red-headed Duck at Lake St. Clair.* By John M. Morden. *Ibid.*, III, pp. 218, 219.

531. *Notes on the Natural History of Manitoba.* By W. G. A. Brodie. *Ibid.*, III, pp. 221-224.—Contains notes on about 80 species of birds.

532. *New Brunswick Notes. Loon.* (*Colymbus torquatus.*) By Montague Chamberlain. *Ibid.*, III, p. 231.

533. *The Wild or Passenger Pigeon. Ectopistes migratorius.* By J. M. LeMoine. *Ibid.*, III, p. 231.—Notes on its abundance prior to 1850, about Quebec and Montreal.

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* Volume III, as here indexed, is incomplete, the number for September, 1883, being the last that has reached us, or that we have heard of as published up to the present writing (March 1, 1884).

[Since writing the foregoing other numbers have come to hand. Respecting this publication see 'Notes and News' in this number of The Auk.']

534. *The Logger-head Shrike. Lanius ludovicianus, Linn.* Editorial. *Ibid.*, III, pp. 232-236, 243, 244.—Consists mainly 'Of Shrikes in a State of Nature,' from Coues's 'Birds of the Colorado Valley.'

535. *The Cow Bird. Molothrus ater* Bodd. By W. W. Dunlop. *Ibid.*, III, pp. 240, 241.—Its habits.

536. *Notes on the Red-shouldered Hawk.* By John A. Morden. *Ibid.*, III, pp. 241, 242.

537. *The Passenger Pigeon.* By W. H. Rintoul. *Ibid.*, III, pp. 242, 243.—Nesting of the species in great numbers near Altona, N. Y., in 1867 and 1868.

538. *The Ornithology of Western Ontario.* By John A. Morden and W. E. Saunders. *Ibid.*, p. 243.—Admits the erroneous character of a record of the breeding there of *Lanius borealis*, and notes the capture of *Machetes pugnax* and *Sterna cantiaca.*

539. *M. Dionne's "Les Oiseaux du Canada."* By Montague Chamberlain. *Ibid.*, III, pp. 248-251.—A critical review of the work.

540. *Ornithological Notes.* By John A Morden. *Ibid.*, III, pp. 254, 255.—On the nesting of *Helminthophaga chrysoptera* near Hyde Park, Ont.

541. *Insectivorous Grouse.* By C [=W. Cooper]. *Ibid.*, III, p. 261.—A specimen of the Ruffed Grouse (*Bonasa umbellus*) found to have "its crop full of caterpillars of *Notodonta concinna*, commonly known as the Red-humped apple tree caterpillar."

542. *Ornithologist's Convention.* Editorial. *Ibid.*, III, pp. 261, 262.—Brief account of the founding of the A. O. U.

543. *Notes on the Natural History of Labrador.* By W. A. Stearns. *Ibid.*, III, pp. 266-268. (From the Proc. U. S. Nat. Mus. Vol. VI, No. 8.)

The 'American Field' (Volumes XVII-XX, Jan. 1882-Jan. 1884), contains, beside articles reprinted from the 'American Naturalist' and other sources, the following notes and articles (Nos. 544-569):—

544. *American Pipit.—Tit-Lark.—(Anthus ludovicianus.)* By W. A. Stearns. *American Field*, XVII, No. 2, p. 35, Jan. 7, 1882.—Notice of its habits as observed by the writer in Labrador.

545. *The Snowy Owl [at Algona, Iowa].* By J. G. Smith. *Ibid.*, XVII, No, 3, p. 52.

546. *Young Quails in March [at Mechanicsburg, Ohio].* By S. M. Harper. *Ibid.*, XVII, No. 3, p. 52.

547. *Migratory Hawks.* By Polk Miller. *Ibid.*, XVII, No. 3, p. 52.—"A flock of from 250 to 500 hawks" seen Sept. 18, 1881, near White Sulphur Springs, Va.

548. *The Migratory Quails.* By Everett Smith. *Ibid.*, XVII, No. 8, p. 132, Feb. 18, 1882.—On their introduction into Maine.

549. *Those Wicked Pugnacious Rogues of Sparrows.* By Philip Vibert. *Ibid.*, XVII, No. 12, p. 187, March 18, 1882. (Marked "To be continued.")

550. *A Request.* By W. W. Cooke. *Ibid.*, XVIII, No. 22, p. 360, Nov. 25, 1882.—A call upon ornithologists to coöperate in collecting data on the migration, nesting, etc., of the birds of the Mississippi Valley.

551. *Effects of Reversion to the Wild State in our Domestic Animals.* By Hon. J. D. Caton, LL. D. *Ibid.*, No. 24, pp. 390, 391, Dec. 9, 1882.—Includes notices of Domestic Turkeys occuring in a wild state in the Hawaiian Islands.

552. *Observations on the Development of Special Senses.* By Hon. John Dean Caton, LL. D. *Ibid.*, No. 25, p. 411, Dec. 16, 1882.—Includes references to the sense of smell in Ducks, Geese, the Wild Turkey, and Turkey Buzzard. (From 'Journ. of Comp. Med. and Surgery.')

553. *Do Birds Possess the Sense of Smelling.* By G. D. Alexander. *Ibid.*, XIX, No. 4, p. 72, Jan. 27, 1883.

554. *Wilson's Snipe.* By J. H. L. (Buffalo, N. Y.). *Ibid.*, XIX, No. 6, pp. 112, 113. Feb. 10, 1883.—On the habits of *Gallinago wilsoni.*

555. *The Sense of Smell in Birds.* By Walter S. Heffron. *Ibid.*, XIX, No. 6, p. 113.—Mainly extracts from Sir Samuel Baker's 'The Nile Tributaries of Abyssinia.'

556. *The Sense of Smell in Birds.* By S. M. Harper. *Ibid.*, XIX, No. 10, p. 174, March 10, 1883.—Relates mainly to the Turkey Buzzard.

557. *The Sense of Smell in Birds.* By W. J. D. (Cimarron, Kan.) *Ibid.*, XIX, No. 11, p. 195, March 17, 1883.—Relates to the Wild Turkey, which the writer believes can smell.

558. *The Hills and Streams of Southern California.* By T. S. Van Dyke . . . . Chapter X. *The Black Brant. Ibid.*, XIX, No. 13, March 31, 1883, pp. 226, 227.—Its habits and abundance in the bays south of San Diego.

559. *Geographical Variation in Size in Birds.* By Everett Smith. *Ibid.*, XIX, No. 18, p. 349.—Cites as instances of *decrease* in size *northward* various species of Loons, Ducks, and the Herring Gull. States that his own observations on not only birds, but animals and fishes, have convinced him that there is one universal rule of variation, which has been given by J. A. Allen, as follows: "The maximum physical development of the individual is attained where the conditions of environment are most favorable to the life of the species."

560. *Unnatural Attachments among Animals.* By John Dean Caton, LL.D. *Ibid.*, XIX, No. 20, May 19, 1883, pp. 396, 397. — Sand-hill Cranes and Hawaiian Geese in confinement forming an attachment for pigs.

561. *The Black Brant* [*Bernicla nigricans*]. By W. A. P. *Ibid.*, XIX, No. 21, May 26, 1883, p. 419.—Its abundance on the coast of Alaska.

562. *The Goatsuckers.* (*Caprimulgidæ.*). By Col. A. G. Brackett, U. S. Army. *Ibid.*, XIX, No. 23, p. 469, June 9, 1883.

563. *The Wood Duck*—(*Aix sponsa*). By Byrne. *Ibid.*, XX, No. 1, July 7, 1883, p. 9.— Original and interesting account of its habits.

564. *Our Goatsuckers.* By Kit Killbird (pseudon.). *Ibid.*, XX, No. 7, Aug. 18, 1883, p. 153.—In correction of certain misstatements by Audubon and by Col. Brackett.

565. *Roseau Lake.—The Breeding Grounds of the Geese and Ducks.*

By Charles Hallock. *Ibid.*, XX, No. 10, Sept. 8, 1883, pp. 220, 221.—Canada Geese, Red-heads, and Mallards "breed there by myriads." Their breeding haunts described.

566. *Our Goatsuckers and Opossums.* By R. *Ibid.*, No. 11, Sept. 15, 1883, p. 249.—Defence of Audubon against "Kit Killbird," respecting the breeding of the Night Hawk in Louisiana.

567. *The Length of Time a Quail sits.* By R. T. C. *Ibid.*, XX, No. 13, p. 298.—Found to be twenty-one days.

568. *The Power of Flight.* By Charles Codman. *Ibid.*, XX, No. 17, p. 394.—"Electricity" believed "to be the sustaining power by which a bird flies"!

569. *Bird Migration.* By W. W. Cook and Otto Widmann. *Ibid.*, XX, Nos. 22, 23, 24, 25, 26, pp. 513, 514, 536, 537, 560, 561, 584, 585, 610, 611. (Continued in Vol. XXI.).—A detailed record of observations made at Jefferson, Wisc., and St. Louis, Mo., begun Jan. 1, 1883, and continued through the spring migration.

'Science,' Vols. I and II, 1883, contains the following:—

570. *Cleaning Birds.* By J. Amory Jeffries. *Science*, Vol. I, No. 1, p. 11.

571. *Domestic ducks that fly abroad like pigeons.* By F. H. Storer. *Ibid.*, No. 2, p. 67.

572. *A caterpillar-eating hen-hawk* [*Buteo pennsylvanicus*]. By F. H. Storer. *Ibid.*, No. 6, p. 168.

573. *Domestic ducks that fly abroad like pigeons.* By Joseph LeConte. *Ibid.*, No. 9, p. 249.

574. *Intelligence of the crow.* By S. Kneeland. *Ibid.*, No. 13, p. 359. — On Crows carrying stones into the air in their claws and dropping them upon intruders.

575. *The least Bittern in Newfoundland.* By C. Hart Merriam, M. D. *Ibid.*, No. 16, p. 457.

576. *Robins, sparrows and earth-worms.* By. F. H. Storer. *Ibid.*, No. 16, pp. 457, 458.—English Sparrows stealing worms from Robins.

577. *Intelligence of the crow.* By Jos. M. Wade. *Ibid.*, No. 16, p. 458.—Tame Crows and Ravens observed to use their beaks and not their claws in transporting objects.

578. *Intelligence of the crow.* By J. A. Allen. *Ibid.*, No. 18, p. 513.

579. *Precocity in a chicken.* By Redducs. *Ibid.*, No. 20, p. 574.

580. *Intelligence of the crow.* By C. C. Abbott. *Ibid.*, No. 20, p. 576.—Carrying mussels into the air in their beaks and dropping them on stones.

581. *Impregnation in the turkey.* By Edward M. Shepard. *Ibid.*, No. 20, p. 576.—Young hatched from eggs laid in confinement without any connection of the female with a Turkey-cock.

581 *bis. Impregnation in the turkey.* By W. Mann. *Ibid.*, Vol. II, No. 25, p. 105.—One connection with a male bird found to be sufficient to impregnate a whole clutch of eggs.

582. [*Absence of*] *Swallows in Boston.* By Carl Reddots. *Ibid.*, No. 26, p. 135.

583. *Change of bird's notes.* By F. O. Jacobs. *Ibid.*, No. 27, p. 167.—Cardinal Bird imitating the notes of the Whippoorwill.

584. *Trick of the English sparrow.* By F. H. Herrick. *Ibid.*, No. 28, p. 201.—Ousting Eaves-Swallows from their nests and appropriating them.

585. *Occurrence of the swallow-tailed hawk in New Jersey.* By C. C. Abbott. *Ibid.*, No. 29, p. 222.

586. *A reckless flier.* By F. H. Herrick. *Ibid.*, No. 29, p. 222.—A Chimney Swift impales itself on the spear point of a lightning-rod above a chimney.

587. *Swallows in Boston.* By Carl Reddots and Leander Wetherell. *Ibid.*, No. 29, p. 222.—First seen in 1883 about August 4.

588. *Prehensile feet of the crow.* By S. Kneeland. *Ibid.*, No. 30, pp. 265, 266.—Instances adduced of Crows using their feet, as well as their bills, in seizing and carrying objects.

589. [*Breeding of the*] *Prairie Warbler in New Hampshire.* By F. H. Herrick. *Ibid.*, No. 31, p. 309.

590. *Do humming-birds fly backward?* By Bradford Torrey. *Ibid.*, No. 34, p. 436.—Answered affirmatively.

591. *Sternal processes in Gallinae.* By J. Amory Jeffries. *Ibid.*, No. 40, p. 622.

592. *Remarks upon the osteology of phalacrocorax bicristatus.* By R. W. Shufeldt. *Ibid.*, No. 41, pp. 640-643, figg. 1-3.

593. *Osteology of the cormorant.* By J. Amory Jeffries. *Ibid.*, No. 44, p. 739.—A criticism on some points in the article last cited.

594. *Osteology of the cormorant.* By R. W. Shufeldt. *Ibid.*, No. 47, p. 822.—A brief reply to the last.

595. *Nesting Habits of Birds.* By E. E. Fish. *Bulletin of the Buffalo Naturalists' Field Club*, I, 1883, pp. 13-17.—Interesting notes on various species.

596. *Generosity of Birds.* By E. E. F[ish]. *Ibid.*, p. 45.

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599. [*English Sparrow playing 'Possum*]. By E. E. Fish. *Ibid.*, No. 3, p. 70.

600. [*Small Complements of Eggs of early nesting Birds in Spring of 1882.*] By E. E. F[ish]. *Ibid.*, pp. 70-71.

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602. *Early Nesting of the Shore Lark.* By E. E. F[ish]. *Ibid.*, p. 71.

603. [*Early Appearance of the Robin.*] By D. S. K[ellicott]. *Ibid.*, p. 71.

604. [*The Red-headed Woodpecker* (*Melanerpes erythrocephalus*) *a Robber of other Bird's Nests.*] By E. E. F[ish]. *Ibid.*, No. 4, p. 92.

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GENERAL NOTES.

A singular specimen of the Black-and-white Creeper. —The Essex County Collection (mounted) of the Peabody Academy of Science at Salem, Mass., contains a pecular Black-and-white Creeper which Mr. Robinson, Curator of the Academy, has kindly allowed me to examine and describe.

According to the accompanying data the bird is a male, taken at about the beginning of the breeding season (Ipswich, Mass., May 15, 1883, by E. C. Greenwood). It differs from the normal condition of the adult male as follows: The forehead, crown, occiput, and nape are dull black, with a rectangular spot of brownish white on the nape, but with no trace of the usual median stripe on the top of the head, even at the roots of the feathers. The opposite sides of the head are *differently marked.* On the left side there is a distinct superciliary stripe of brownish or ochraceous-ash, which begins above the anterior corner of the eye and is continued backward nearly to the occiput, merging posteriorly into a tract of similar color on the auriculars, but separated from it immediately behind the eye by a conspicuous post-ocular spot of black.

On the right side the black descends uninterruptedly to the auriculars, and there is no apparent trace of a superciliary stripe, although the right eye, like the left, is encircled by a narrow whitish ring. Both lores are black, with a slight tipping of brownish on some of the feathers, and both sides of the head and neck, below the line of the eye, are uniform brownish-ochraceous, with a few obscure dusky shaft-streaks on the auriculars.

The exposed surface of the throat, jugulum, and breast is plain brownish-ash, without decided markings of any kind, save well back on the sides of the breast, where there are a few black streaks. Upon disarranging the plumage, however, concealed black is everywhere revealed, each feather having a sub-terminal black bar extending squarely across both webs and separating the light brownish-ashy space at the tip from the somewhat broader, pure ashy one at the bases. The back is colored and marked like that of the autumnal female of *Mniotilta;* the flanks and crissum similarly washed with fulvous. The wings and tail offer nothing peculiar, although they have rather less than the usual amount of white.

In a more general way, this bird may be characterized as a Black-and-white Creeper with the crown of a Black-poll Warbler and a throat and breast which recall (although they will not actually bear comparison with) those of the Connecticut Warbler in autumn. Nearly every one who has seen the specimen has been inclined, at first, to consider it a hybrid, but although the *Mniotilta* element is obvious enough, it is difficult to supply the other parent. Assuming it to have been *Dendræca striata*, the obliteration of the median crown-stripe of *Mniotilta* is accounted for, but a cross with this — or indeed with any other *black-crowned* Warbler of my acquaintance, would hardly give the pecular coloration of the breast and throat. Moreover, the generic characters of *Mniotilta* — especially its only really important ones, viz., the peculiar shape and proportion of bill and feet — are in no wise modified as would be certainly the case were the bird an offspring of a cross with a species of another genus. In view of these considerations it is most natural to assume that it is an aberrant — perhaps melanistic — example of the common Black-and-white Creeper. The case finds a fairly close parallel in that of the notorious *Spiza townsendi*, which can be scarcely maintained as a bona-fide species, while it is equally difficult to show successfully that it had a hybrid origin. The

occurrence of such strangely abnormal specimens should be a warning to those who would impugn certain 'lost' species which, it has been claimed, have existed only in the imagination of their describers. — WILLIAM BREWSTER, *Cambridge, Mass.*

Breeding of the Mockingbird near Boston, Mass.—On August 15, 1883, my brother, Mr. W. J. Townsend, shot two nearly full-grown Mockingbirds (*Mimus polyglottus*) at Arlington, Mass. He found them in a small thicket near a meadow, in company with an old one and two other young ones, which, however, he was unable to secure. The two he obtained were young birds, quite well feathered, their wings fully grown, but their tails decidedly shorter than in the adult. Later I made frequent excursions to the same and neighboring places, but did not succeed in discovering the rest of the family. On inquiry I learned that a farmer of the place, who had lived down in the South and was familiar with the Mockingbird, had seen one several times during the early part of the summer near his house, and heard him sing.

There seems, therefore, no reason to doubt that a pair of these birds bred at Arlington. Mr. William Brewster tells me there are no records of the breeding of the Mockingbird in Eastern Massachusetts, but the fact of their breeding several times near Springfield, Mass., is well known.— CHARLES W. TOWNSEND, *Boston, Mass.*

Dendrœca coronata in Southern New Hampshire in Summer.—On June 25, 1883, I shot an adult male of this bird in Hollis, N. H. It was in company with several broods of *D. virens*, etc. — WILLIAM H. FOX, *Washington, D. C.*

Nest and Habits of the Connecticut Warbler (*Oporornis agilis*).— A few miles south of Carberry, Manitoba, is a large spruce bush, and in the middle of it is a wide tamarack swamp. This latter is a gray mossy bog, luxuriant only with pitcher plants and Droseræ. At regular distances, as though planted by the hand of man, grow the slim straight tamaracks, grizzled with moss, but not dense, nor at all crowded; their light leafage casts no shade. They always look as though they were just about to end, though the swamp really continues for miles—the same dank, gray waste.

At times the Great-crested Flycatcher was heard uttering his whistling croak. Besides this the only noticeable sound was the clear song of a Warbler. It may be suggested by the syllables, *beecher-beecher-beecher-beecher-beecher-beecher*. It is like the song of the Golden-crowned Thrush, but differs in being in the same pitch throughout, instead of beginning in a whisper and increasing the emphasis and strength with each pair of notes to the last. Guided by the sound, I found the bird high in the tamaracks. It was not shy like the Wood Warblers, so it was easily secured. It proved to be a male Connecticut Warbler.

As I went on, a small bird suddenly sprang from one of the grave-like moss-mounds. It seemed distressed, and ran along with its wings held

up, like a Plover just alighting. On seeing that I would not be decoyed away, it ran around me in the same attitude. Recognizing that it was the Connecticut Warbler, I took it, and then sought out the nest in the moss. It was entirely composed of dry grass, and sunken level with the surface. The eggs, four in number, measured .75 × .56 in. Before being blown they were of a delicate creamy white, with a few spots of lilac-purple, brown, and black, inclined to form a ring at the large end.

This nest was sent, with the parent birds, to the Smithsonian Institution; the indentification was confirmed, and the nest deposited in the Museum. — ERNEST E. T. SETON, *Carberry, Manitoba.*

The Loggerhead Shrike (*Lanius ludovicianus*).—Dr. Elliot Coues has described so minutely the habits of the Laniidæ in his account of 'Shrikes in a State of Nature' (Birds of the Colorado Valley, Part I, 1878), that very little is left in the history of the Shrikes for other observers to record. However, an unusual incident (to me) in the nidification of *Lanius ludovicianus* came under my observation last spring, which I trust will be of interest enough to ornithologists to warrant a place in 'The Auk.' On May 19 I discovered the nest of this Shrike upon the central fork of a thorn tree, and almost within reach from the ground. As the nest contained only one egg, I did not then take it, but returned seven days later to find that two more eggs had been laid. As I wanted a specimen, I shot the bird as it arose from the nest, and it proved on dissection to be a female. I tried in vain to obtain the male, but he kept beyond range, appearing much excited and uttering constantly a peculiar note, similar to the sound produced by blowing through a pea-whistle. Six days later, I found a new and completed nest on the tree next to that which had held the one I took, and as I stood looking at it, a pair of Loggerhead Shrikes flew close up to it. While watching them I wondered whether the male of the first nest could have procured another mate and built a nest in such a short time. Of course I could not solve this point, as I had nothing to identify the bird by; but I have since been informed by Mr. Chamberlain of St. John, N. B., that he had witnessed something similar, and was enabled to identify his bird by its having *only one eye*. I therefore think it fair to presume that the male of the first nest I obtained did arrange his second matrimonial venture within the six days. On discovering these nests I expected to find the 'Shrike's larder,' but after examining all of the thorn trees and bushes in the vicinity, I found not a single bird or insect impaled on any of them. — ERNEST D. WINTLE, *Montreal.*

Cowbirds in a Black-and-white Creeper's Nest.—In the spring of 1881 a friend reported finding a bird's nest with two sorts of eggs in it. Suspecting the solution of this mystery, I examined the nest some days later and found a couple of young Cowbirds, with gaping mouths but fat and plump, while entirely underneath them was an addled Cowbird's egg and two young Black-and-white Creepers, the latter nearly dead from starvation or suffocation — or both.

In this connection I might record taking Cowbird's eggs frequently from nests of the Indigo Bunting, and that invariably the Buntings have deserted their nest after these eggs were removed. —JOHN A. MORDEN, *Hyde Park, Ontario.*

The Great Horned Owl (*Bubo virginianus*) **in Confinement.**—There has been considerable written upon this subject, and yet my present pet has displayed several characteristics which I have not observed mentioned in any of the records I have access to, and which are rather interesting.

I took her (I am strongly impressed with the belief that the bird is a female) from the nest on May 21, 1882, and judged from the plumage that she was then some twenty days old. She and her nest mate were covered with a grayish down, and when I pushed them over the edge of the nest —a rough shapeless affair on the exterior, though comfortably lined with feathers, and built in the crotch of a birch tree some eighty feet from the ground—they made an awkward attempt at flying, but reached the ground all right. They snapped their bills as I picked them up, but allowed themselves to be carried off without making further remonstrance.

The parents did not interfere, though just before I climbed the tree one of them flew on to the edge of the nest and uttered a sharp and shrill cry, with a vibration similar to that produced by a 'pea' whistle (the same cry as my pet gives voice to when annoyed or angry), and then flew off. The nest, by the way, was in a rather odd situation, being on the outskirts of a heronry of the Great Blue Heron, and not a hundred feet from where a pair of Fish Hawks were putting in habitable condition a nest which appeared to have been used for many years.

I have given my pet the run of a large room, and had ample opportunity to watch her growth and habits. At four months the horns, or eartufts, began to be noticeable, and in six months the bird was in full feather. In April, 1883, when about a year old, she made two attempts at nest-building, but finally relinquished the idea and shortly after began to shed her feathers.

From my experience with this bird I cannot fairly say that I consider the species untameable, though I confess I have not made much headway in reducing her to submission; yet she will allow me to stroke her head, and makes very little fuss when I enter her apartment alone, in comparison to what she does when a stranger approaches her. But she is undoubtedly fierce, and thoroughly appreciating the value of her equipment of muscle and claw, and considering any infringement of vested rights a *casus belli*, soon teaches a meddlesome intruder that no liberties whatever will be tolerated.

At times she is morose and sullen, but not unfrequently assumes a more playful air, when she seemingly enjoys putting herself into grotesque attitudes, varied with hooting, and another sound which so closely resembles the creaking of the door-hinge of her apartment that I am inclined to believe she has imitated it. Once, while in such a mood, I introduced a full grown cock into the room, when lo! the whole demeanor

of my pet changed *instanter*. The horns were thrown back flat against the crown, the eyes glared fiercely, and the stately bird of wisdom, and the humorous vendor of quaint sounds, gave place to the savage bird of prey. As she stood for a moment glaring down upon her victim, moving her head from side to side, as if calculating the distance and the best method of attack, she looked like a veritable fiend. Her first swoop was dodged by the cock, and she then made an attack on the ground. Approaching the now terrified bully of the barn-yard, quick as a flash one claw was thrust out, clutching his neck; throwing him over on his back she quietly held him there until all motion had ceased, which was much sooner than if his head had been chopped off.

Nothing in the shape of fresh fish or flesh is neglected by the Owl when hungry, though her choice is for wild birds, and she will take small animals in preference to beef or mutton. A rat or squirrel is always swallowed whole, and about every second or third day the fur and bones are ejected, rolled into a hard pellet as large as a Grouse's egg. Just before ejecting these pellets the bird's appearance is very distressing. The first time I observed it I thought she must be ill, but as soon as the pellet is out she immediately recovers. If any food remains after her hunger is satisfied, it is carefully hidden away, and if I approach the spot where it has been laid the Owl attacks me most fiercely; flying at my feet, and hitting at them with her wings and claws.

She is very fond of bathing, and during the warm weather will bathe regularly once a day; getting into the large basin I have provided and washing very much after the manner of a Canary. In winter she takes a bath about every three or four days.

I have proven that her hearing is remarkably acute, and that she can see distinctly in the day time, when out of the glare of the sun.

The 'hoot' is made with the bill firmly closed; the air is forced into the mouth and upper part of the throat, the latter being puffed out to the size of a large orange.—JAMES W. BANKS, *St. John, N. B.*

Ducks transporting Fresh-water Clams.—In a conversation with Mr. J. W. Freese of Cambridge in relation to birds transporting bodies in their claws, my attention was called to an interesting observation made by Mr. Eugene Barry of Lynn. As the observation seems an important one, touching a possible cause of the distribution of these mollusks, I have asked Mr. Barry, through the kindness of Mr. Freese, to write out his experience, and from the letter which he has kindly sent in reply the following abstract is made.

While gunning on the Sebec River, Maine, he noticed among a flock of Ducks on the wing, one bird which flew more heavily than the others. This he shot, and on picking it up found a common 'fresh-water clam attached to the penultimate joint of the 'middle toe.' He cut off the leg with the clam adhering to it, and noticed that the articulation to which the mollusk had fastened itself was chafed as if the clam had clung to it for sometime. After a day or more the leg of the Duck and the clam, which had not yet released its hold, were put into a basin of water, when the

mollusk opened its shell and released the imprisoned foot. Mr. Barry afterwards learned from boys of the neighborhood that the same Duck had been noticed flying about on several mornings and evenings previous to the day upon which he shot it. The clam was probably clinging to the Duck's foot at that time, and had not released its grip even when the Duck lit upon the water, as it must frequently have done in the intervals of time between observation.—J. WALTER FEWKES, *Cambridge, Mass.*

The Lesser Glaucous-winged Gull in New York.—On January 28, 1884, Mr. Edward Root, of Green Island, N. Y., brought to me a Gull, fresh in the flesh, and said he shot it the day before as it sat on the ice by a rift of open water in the Mohawk River, near its junction with the Hudson — at about latitude 42° 46′. The weather had been very cold for about a month. The bird was thin in flesh, weighed only 21 ounces, and had in its stomach merely a few grains of gravel.

When I received the bird the color of its irides was pale grayish brown; of its bill, light watery yellow, with a greenish shade near the base, and a small red spot in a little cloud of dusky on each side of the lower mandible above the angle. The legs and feet were flesh color.

Its measurements were: Length, 23.00 inches; extent, 51.75; wing, 15.75; bill, 1.60; from nostril, .80; from gape, 2.60; height at nostril, .60; at angle, .63; tarsus, 2.20; middle toe and claw, 2.25; tail, 7.00; wings beyond tail, 1.50; diameter of iris, .36.

The bird was a female, and its ovary showed that it had passed through at least one breeding season, and was not very old. In size, plumage, coloration, and wing-markings it seemed similar to the Gulls recently described by Mr. William Brewster (Bull. Nutt. Orn. Club, Vol. VIII, pp. 216-219); and upon submitting the mounted bird to him for examination he informed me that it is what he has named *Larus kumlieni*.—AUSTIN F. PARK, *Troy, N. Y.*

[The specimen above referred to is most nearly like Mr. Welch's, among the four which I have previously seen. The blue of the mantle is similarly deep, and the slate-gray of the primaries perhaps even more extended, the first three feathers having their outer webs almost wholly dark, except terminally, where the characteristic white apical spots, although present, are unusually restricted. In these respects the bird extends the series of known specimens (five in number) a little further towards *glaucescens* proper, thus increasing the probability that *kumlieni* may prove eventually to be merely a geographical race of that species. Nevertheless this is still only a probability, for a wide gap remains to be bridged before the two can be united as conspecies. I may add that Mr. Park's specimen has an unusually short, stout bill, which is further peculiar in having the superior outline of the maxilla almost perfectly straight from the base to the angle.—WILLIAM BREWSTER.]

The Occipital Style of the Cormorant.—This style, which in skeletons is found articulated with the occiput, is in reality the ossified raphe of

the temporal muscles (Owen, Anat., II, 93). Finding upon dissection of a young Cormorant the raphe but slightly ossified, I would make the following suggestion of its evolution. In some birds, especially those with small crania, the temporal muscles meet in the median line over the occiput. In the Cormorant we find this carried to an extreme, the muscles extending back for about an inch over the nape of the neck. This increase in the size, and consequently in the power of the temporal muscles, is evidently of great advantage to a bird of the Cormorant's habits. But were the muscles not held in place, they would slide over the occiput with the first contraction. This could have been avoided by the muscles being attached to the vertebræ, or to a theoretical ligamentum nuchæ. But such an origin would have bound the head in extension, a condition incompatable with the life of the bird. We therefore find the only other possible contrivance, a solid guy, extending from the cranium. This guy has been made by the conversion of the fibrous raphe into bone. In young Cormorants the raphe, though dense, is not ossified. Were the guy represented by a spinous outgrowth from the skull, motion of the head upon the neck would be seriously impaired, as the spine is fastened down to the neck by fascia and the skin. Therefore we find a ball and socket joint developed between the spine and the cranium.

This beautiful adaptation of limited material to a given end points strongly to a Lamarkian mode of development; its development by gradual selection is hard to understand. When we consider that demand upon a muscle leads to its increased size; that bone is frequently formed in tendons—and such the raphe is—to meet mechanical needs; that bursæ form in connective tissue at points of friction, we see how all may be the direct result of demand upon the temporal muscles. Once given the structure, natural selection comes into play in the increase of Cormorants; but first cause and the means by which the results of a first cause are maintained should never be confounded.

Finally, this bone, as the result of ossification of a common tendon of a pair of muscles, is an anatomical rarity.—J. Amory Jeffries, *Boston, Mass.*

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

Trinomials Are Necessary.

To the Editors of The Auk:—

Sirs: Referring to Mr. Chamberlain's timely query, 'Are Trinomials Necessary?' in the January number of this periodical, I beg to say a word by way of supplementing Mr. Allen's excellent remarks upon this interesting question. He has covered the ground so well that, in heartily endorsing the tenor and substance of all he has said, I only wish to add

a formulation of the principle upon which 'the American school' acts in applying this method of nomenclature. The following paragraph is taken from a plate-proof of my new 'Key,' p. 76, long since stereotyped, but not yet published:—

"No infallible rule can be laid down for determining what shall be held to be a species, what a conspecies, subspecies, or variety. It is a matter of tact and experience, like the appreciation of the value of any other group in zoölogy. There is, however, a convention upon the subject, which the present workers in ornithology in this country find available; at any rate, we have no better rule to go by. We treat as 'specific' any form, however little different from the next, that we do not know or believe to intergrade with that next one; between which and the next one no intermediate equivocal specimens are forthcoming, and none, consequently, are supposed to exist. This is to imply that the differentiation is accomplished, the links are lost, and the characters actually become 'specific.' We treat as 'varietal' of each other any forms, however different in their extreme manifestation, which we know to intergrade, having the intermediate specimens before us, or which we believe with any good reason do intergrade. If the links still exist, the differentiation is still incomplete, and the characters are not specific, but only varietal, in the literal sense of these terms. In the latter case, the oldest name is retained as the specific one, and to it is appended the varietal designation: as, *Turdus migratorius propinquus.*"

While it is always safer to prophesy after than before the event, I nevertheless venture to predict that the nomenclature of the near future will fully recognize some such principle as this, and apply it by means of trinomial nomenclature, in Europe as well as in America, and especially in Great Britain. In my judgment, the interests of the B. O. U. and of the A. O. U. would both be subserved by an alliance in this particular.

Very truly yours,

Washington, February 20, 1884. ELLIOTT COUES.

Are Trinomials Necessary?

TO THE EDITORS OF THE AUK:—

Sirs: I feel sure that every amateur who has read the reply to my letter in the January number of this magazine will feel as sincerely thankful for it as I certainly do — grateful for the information conveyed, and pleased to have the proof that such questions as I have asked will receive kind and courteous consideration in the pages of 'The Auk.'

Candor compels me to add, however, that the reply has not, in some points at least, proved entirely convincing, and I return to the subject for the purpose of gaining further light.

It is to be hoped that the more advanced students will not grow impatient over the persistency and, perhaps to them, apparent stupidity of these unbelievers of the 'amateur element.' Those who have passed from unbelief to a firm conviction that trinomials are useful and neces-

sary should remember that they gained such happy consummation only through a gradual process of reasoning, and should not expect those to whom the subject is comparatively new to reach the same plane of thought at a single bound. For every man, worthy the name of student, will ask a reason for each successive step, and not take them simply at some other man's *dictum* — the day for that has passed.

That which is very generally considered antagonism to trinomialism is not, so far as the American amateur ornithologists are concerned, an opposition to the use of three terms to distinguish varieties from species, but an unbelief in the necessity of recognizing varieties by *any* distinctive appellation. Prove to us that varieties are a necessity, that trinomials are an advance toward 'exactness of expression,' without an overbalancing loss in complication and increased difficulty in study, and we will accept the trinomial pure and simple — without any connecting term — as an improvement upon any previous method of denoting these forms. We harbor no 'Dr. Dry-as-dust' 'craze' for a purely binomial nomenclature, but we do protest against the propagation of any system which unnecessarily creates obstacles to the study of the science, instead of simplifying it; we do ask that our leaders shall not take a step backward and force upon us something which is barely more than a change, and not only no improvement, but a palpable injury; that we be not dragged into a 'craze' for trinomialism by following the lead of an 'American school,' in whose splended abilities and brilliant performances every American amateur feels a glowing pride.

But while stating all this I must not allow it to be thought that the unbelievers are blind to the possibility of their unbelief being based upon misunderstanding, or perhaps ignorance; they fully realize that this may be the case — hence these questions.

Our stumbling-blocks may be stated in a few words. We conceive that the recognition of varieties tends to create confusion in classification and nomenclature, and increases the difficulty of identifying specimens. We do not see that by it any advance toward exactness has been secured; and it appears to us that to gain this advantage, and to be consistent, and carry to its legitimate end the argument for their adoption, *every* variation from a given type must receive a distinctive name: necessitating not alone the recognition of varieties of species, but also of varieties of varieties almost without limit.

This idea is, of course, too absurd to deserve a moment's earnest thought; and, considering that zoölogical classification is to some degree artificial, and that only an approximation to complete exactness can be reached, we are forced to the conclusion that, on the whole, a better result would be accomplished if those forms which are sufficiently differentiated to demand a distinctive name were classed as species instead of varieties — that when a Song Sparrow ceases to be a Song Sparrow it were called something else — and a pure and simple binomial nomenclature were thus retained, the less important variations being understood through the medium of a general law.

One point more. I have seen it stated (I cannot at this moment remember just where), that the fact that all recent American writers on ornithology use trinomials is evidence that they endorse the system which these trinomials represent. Now, as a matter of fact, this is not true; but even if it were true, the statement could not be made fairly upon such evidence. It is well known that the prevailing systems of nomenclature have been adopted by the large majority of American writers simply because they *were* the prevailing systems, for convenience's sake. And if some bolder and more independent spirit were to rebel against following a prevailing idea with which he did not agree, and attempt to originate a system for himself, he would very probably be 'set upon' as a conceited, self-opinionated person, and have hurled at his heretical head some such crushing sarcasm as 'he has become almost an ornithologist.'

The 'amateur element' appreciate the desirability of having all classes of American ornithological students work in harmony and in concert, and it is for this reason that the unbelievers in trinomials desire to get rid of their unbelief.

Respectfully yours,

St. John, N. B. MONTAGUE CHAMBERLAIN.

[We are glad to see that the objection to trimonials is not, as we in writing our former reply supposed, that they are in themselves an objectionable innovation in nomenclature—as opposed to strict adherence to binomialism—but that their acceptance depends upon proof that it is necessary to recognize varieties, or incipient species, at all in nomenclature. We return to the subject, however, with a feeling that the doubters may not be open to conviction by such evidence as can be readily put before them on paper; but that their conversion would be easy could we lay before them series of specimens illustrating the forms to which trimonials are applied, showing them how different many of them are in their extreme phases of divergence, and at the same time how completely they inosculate.

As stated in our former reply, the best, and in fact most, naturalists the world over believe it necessary to, and in practice do, recognize varieties as a means of giving a correct and precise expression to the status and relationship of a grade of forms differentiated to a degree that renders their recognition in nomenclature necessary if we would properly formulate the facts of biology, although such forms are known to intergrade and cannot, therefore, properly rank as species. Furthermore, the recognition of varieties is much more prevalent now than formerly, in consequence of better knowledge of the relationships and real status of such forms, resulting from more favorable opportunities for study and the rapid accumulation of material. Although Mr. Chamberlain does not even imply that the 'unbelievers' of the 'amateur element' think they have a better knowledge of what is required in the case than the specialists—the experts in the subject, who are not only trained naturalists, but who have had in hand an amount of material, and opportunities for judgment in such

questions, of which some at least of the 'unbelievers' have little conception—yet we can hardly believe it unkind on our part to ask the 'unbelievers' to answer for themselves the questions, whether expert testimony, in matters of science at large, or in human affairs in general, is entitled to any more weight than lay opinion; or whether if they had had the same opportunities for study, and the same amount of material for investigation, they believe that they would have reached other than the same conclusions, or would have taken any different course of action.

As to varieties and trimonials making nomenclature more complicated, and the study of ornithology more difficult, is not the difficulty complained of necessarily inherent in the subject, and dependent rather on the degree of knowledge the student aspires to acquire, than on any needless encumbrances thrown in the way by the 'leaders' in the science?

But our correspondent will, we fear, think, in this instance at least, that our reply is not only ungracious, but that we are seeking to evade the issue he presents. We must therefore say, that to discuss the subject in its many bearings, and in a way to present in argument what could be quickly and easily shown by recourse to specimens, would require a long essay rather than the few paragraphs here at command. So we must content ourselves with adding to what was said or implied in the reply to our correspondent's former letter, and in Dr. Coues's letter above given, that a philosophic principle underlies the whole subject, and that it is not merely a matter to be decided by 'convenience.' While classification is to some extent conventional, the object of classification in zoölogy is to express the natural or genetic relationship of the objects classified; and the proper distinction of varieties from species is by no means an unimportant element in this scheme. The 'unbelievers' for whom Mr. Chamberlain speaks are not to be presumed to be so skeptical as to ignore the modern doctrine of evolution; and, viewed from this standpoint, it makes a vast difference whether we indifferently term a given form a 'species' or 'variety' in obedience to a mere principle of convenience. As Dr. Coues above states, the recognition of a form as a species implies "that the differentiation is accomplished, the links are lost, and the characters actually become 'specific.'" By varieties are meant forms that are not fully differentiated — in other words 'incipient species,' or species still in the process of evolution. It hence follows that the terms species and varieties are not interchangeable at will, but expressions for certain definite and known facts in nature, grounded on a philosophic principle, to ignore which is not only unscientific, but is to deprive us of a means of precise definition at a point where precision is of high importance. As we said before, and as Dr. Coues restates, the determination of how great a divergence from the common stock a form must have to render it desirable to recognize it in nomenclature, "is a matter of tact and experience, *like the appreciation of any other group in zoölogy.*"

As is well known, no two individuals of any species are exactly alike; yet it would be absurd and useless, were it not also impossible, to give names to each. There are also many local variations that are not too

slight to be detected, but which are either too slight or too inconstant to require recognition. While theoretically it is possible to recognize 'varieties of varieties,' in practice this rarely occurs, and should never be countenanced; if a form is different enough to be recognized, it should stand as a variety of the common stock, not as a variety of a variety, although it may be more nearly related to some one of several varieties than to any of the others.* Again, the objection has been raised that the recognition of varieties is subject to the caprice of any dabbler who may feel disposed to set them up: theoretically this also is true, but in practice such work falls where it should — to experts, who occasionally err in judgment, or through inadequate material, but in the main are safe guides, and as such are followed, even by their peers when these have not themselves the same or a better opportunity to review the group in question. The recognition of a variety is a matter to be as carefully and conscientiously considered as the recognition of a species, or any higher group.

Hoping that our remarks may serve to throw a little further light upon the points at issue, we again take leave of the subject.—J. A. A.]

The Ornithological Report in the 'Cruise of the Corwin.'

To the Editors of The Auk:—

Sirs: I observe that in his notice of my ornithological paper in the 'Arctic Cruise of the Revenue Steamer Corwin,' Dr. Coues indulges in some severe strictures on the typographical errors and mechanical execution of the report.

It must be conceded that the number of these errors and their atrocity renders his critical remarks justifiable enough. Had, however, Dr. Coues

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* In this connection it seems not out of place to refer briefly to a point raised by Dr. Stejneger in his article in this number of 'The Auk' on the genus *Acanthis*. He alludes (p. 150) to Mr. Seebohm's practice of forming trinomials of the names of the conspecies most nearly related, as tending to better express their true affinities than does the method, adopted by American writers, of taking for the second term of the trinomial the name first given to the group of conspecies as a whole or to any of its forms; and adds: "This .... is a point which merits earnest consideration." We believe, however, that there are two unquestionably strong objections to Mr. Seebohm's method of constructing trinomials. First, it leaves the construction of conspecific names subject to individual opinion as to what two forms of a given group of intergrading forms are most nearly related — a point about which there must, in the nature of the case, be often a diversity of opinion. Second, and of far greater importance, it ignores the law of priority — the fundamental principle of our nomenclature — and therefore opens the way to instability of names and endless confusion. It seems to us perfectly evident that the law of priority should be considered as equally imperative in relation to conspecific — or subspecific — names as to specific and generic names. In other words, the name first applied to any form of a group of conspecies should be the designation, in a specific sense, for the group as a whole, and should also form the second term of the trinomial for each of its conspecies, whatever may be their relationship *inter se;* and that the slight gain accruing in special cases by Mr. Seebohm's method is much more than offset by the ill results that must inevitably follow from disregarding the law of priority in constructing conspecific names.

noticed the statement that the author had no opportunity for proof-reading his paper he would scarcely, I think, have committed so grave an offence against the canons of just criticism, with which he may be presumed to be fairly well acquainted, as to employ the severe terms he does without an accompanying statement that the author's absence during the passage of his report through the press removes all blame from his shoulders. As I am compelled to believe he must have overlooked this note at the head of the errata slip, printed though it is in type of no inconspicuous size, it may chance that others may do so also; and I therefore take occasion to state—mainly for the benefit of those who may see Dr. Coues's strictures without having access to the report itself and the accompanying errata slip—that, while accepting full responsibility for all statements of fact contained in the paper, I cannot consent to be held accountable for errors of omission and commission in the way of proof-reading and typographical execution. My absence from Washington while this report was in press is regretted by no one so much as myself, but was unavoidable.

Very respectfully,

E. W. NELSON.

Tucson, Arizona.

[It was certainly not our intention to hold Mr. Nelson responsible for the typographical errors of his report; for we did notice his statement disclaiming responsibility therefor, and intended the general tenor of our 'strictures' to imply that the typographical eccentricities were no fault of his, although we failed to formally so state.—E. C.]

A Plea for the Metric System in Ornithology.

TO THE EDITORS OF THE AUK:

Dear Sirs: It seems to me extremely unfortunate that most of our ornithological writers persist in the employment of the confusing and irrational system of inches and hundredths, or, still worse, inches and lines, in the measurement of birds and their eggs.

The metric system is so simple, and its advantages so numerous, that it has already become the acknowledged standard in all departments of science. Certainly none will gainsay that its universal adoption is inevitable sooner or later. Then why defer the hour and thereby increase the already too great number of measurements that must eventually be reduced to the metric system? The labor of converting a series of measurements from one scale to another is not small, and life is too short for busy men to be obliged thus needlessly to waste valuable time.

If we were the only people who have occasion to measure birds the case would resolve itself into one of the relative convenience of the two systems (and even then the choice could but fall to the metric); but as a matter of fact there are ornithologists in all parts of the world, and the comparison of published measurements has become an every day neces-

sity. "But the arithmetical disadvantage," in the language of the eminent President of Columbia College, Professor Barnard, "is by no means the whole, or even the greater part, of the evil which this state of things produces. A much more grave consideration is the fact that it interposes an effectual bar to the intelligent interchange of thought. It renders it impossible for an American to converse understandingly with an Austrian on any subject involving quantities of any description. It makes it impossible for an American to derive instruction from an Austrian book or magazine or journal where quantities are mentioned; or an Austrian from an American. This is an enormous evil, and as it exists not in this quarter only, but everywhere, the world has crying need of its removal."*

In times when communication between nations was of rare occurrence, incommensurability of unit bases was not dreaded as at present. But imagine the impediments to commerce that must have arisen from this source in Europe during the early part of the present century. The unit of measure known as the foot was 11.62 inches in Rome; 13.68 in Lombardy; 23.22 in Lucca; 9.76 in Avignon; 10.57 in Rouen; 14.05 in Bordeaux; 11.33 in Rostock; 19.21 in Geneva; 9.25 in Wesel; 10.89 in Bavaria; 13.12 in Carlsruhe; 10.86 in Brussels; 11.28 in Liége, etc. Is it to be wondered at, then, that these people, to again use the words of President Barnard, "in looking about for a common system, and finding the metric system to be an existing system, and a good system, and, above all, an available system, and the only one available for the purpose, ... should have seized upon it, and legalized it, and made it permanent, without too anxiously concerning themselves with the questions whether the metre would not have been better if it had been a little longer or a little shorter, or if it had represented something different from what it does represent," etc. "Men of science have adopted this system, not only because of their approval of its principles, but because it is a labor-saving machine of immense capabilities."

Owing to the vast size of our own country we did not so soon feel the need of this reform, but our commercial relations with other powers are so extensive that our Government, eighteen years ago, legalized by act of Congress the use of the metric system in business transactions. It has been formally adopted by nearly all civilized nations, and has proved a far greater boon than even its most earnest advocates were led to expect.

A glance at the scientific journals of the day shows that this system is in vogue in all parts of the world, not only among physicists and chemists, but also among naturalists. Even in the United States it is largely employed by mammalogists, osteologists, palæontologists, herpetologists, and ichthyologists; by those engaged in the study of our invertebrates, and by botanists. Why then should American ornithologists, who desire and profess to keep abreast of the progress of knowledge in their department, permit themselves to postpone the acceptance of this most useful addition to their armamentarium by the continued employment of a scale of linear

* The Metric System of Weights and Measures. By F. A. P. Barnard, S. T. D., LL. D. New York, 1872, pp. 28-29.

measure that is incommensurable with others, incongruous in itself, and fast becoming obsolete?

The founding of the American Ornithologists' Union marks the commencement of a new era in American Ornithology. It is about to establish a stable nomenclature, based upon sound principles, and carried out with painstaking and impartial thoroughness. Let it also advocate, and let its organ 'The Auk,' demonstrate, that American ornithologists abandon the barbarous scale of their forefathers and join the men of science of all nations in adhering to a system of weights and measures that is uniform throughout the world, and whose simplicity and convenience are not among the least of its recommendations.

C. Hart Merriam, M. D.

Locust Grove, N. Y.

[Our correspondent's presentation of the advantages of the metric system and its claims for adoption is not only timely but so fully covers the ground that little need be added in its further advocacy. To the greater part of the present generation of American ornithologists the proposed change will be attended with more or less inconvenience, but should nevertheless be promptly assented to and heartily adopted, in the interest not only of science, but above all for the convenience of our immediate successors. The metric system is presented in our school text-books, and quite generally taught in our public schools; it is, as Dr. Merriam states, the system already most generally employed in science the world over, being used exclusively by the leading scientific writers in all departments of science, including even zoölogy. To make the transition period as brief as may be, it is desirable that the change be promptly and generally made; and to this end we would urge all contributors to the pages of 'The Auk' to give their measurements in the metric system.—Eds.]

NOTES AND NEWS.

Hard upon the letter in which Professor Hermann Schlegel honored the A. O. U. by accepting Foreign Membership of this Association—a letter written *alieno manu*, in consequence of fading eyesight—comes to us the sad news of his death, removing one of the world's great ornithologists Professor Schlegel died on the 17th of January at the age of 79, having been for some twenty-five years the Director of the Royal Museum at Leyden, and for half a century one of the most active and prominent of European workers in science. He is probably best known in this country by the numerous volumes entitled 'Muséum d'Histoire Naturelle des Pays-Bas,' in which are set forth the great riches of the Leyden collection, in the direction of which he succeeded Temminck on the death of the latter in 1858.

Mention of this name instantly recalls the famous work, 'Fauna Japonica,' by Temminck and Schlegel. Among the other leading works may be mentioned his critical review of European Birds (1844), published in French and German; his Birds of the Netherlands (1854); his 'Handleiding der Dierkunde' (1857); his European Diurnal Birds of Prey and treatise on Falconry; and his researches on the Fauna of Madagascar. One of his earliest treatises was an essay on the Physiognomy of Serpents (1837), said to be the first really scientific work on serpents ever published; and his latest publication was 'Notes from the Leyden Museum.' Our death-roll begins with one of the most illustrious names in ornithological science; but only after the exceptionally protracted and honored career of him who bore it — of one gathered to his fathers in the fulness of time — of one whose works are his imperishable monument.

—By a vote of the Union the Council was empowered to fix the date and place of the next Annual Meeting; and, persuant to this order, the Council, at a meeting held March 11 in Washington, decided on September 30 next as the time, and New York City as the place, for holding the Annual Meeting of 1884.

—We have received the announcement of the 'Internationale Ornithologische Zeitschrift,' an illustrated quarterly Magazine of Ornithology, to be published at Budapest, Hungary, edited by Dr. Julius von Madarász, Assistant Curator of the Hungarian National Museum. The subscription for the volume is 12 florins.

—'Random Notes on Natural History' is the title of a twelve-page monthly "devoted to the distribution of useful knowledge concerning the various departments of zoölogy, mineralogy, and botany," published by Southwick and Jencks, Providence, R. I. The two numbers that have reached us are carefully edited and neatly printed, and contain, besides the business advertisements of the publishers, many short articles relating to the subjects above mentioned, including various interesting bird notes.

—We are sorry to note that 'The Canadian Naturalist and Sportsman' for December, 1883 (published in February, 1884), contains the announcement that this valuable publication ends with this issue, owing to the pressing business engagements of its editor and publisher, Mr. William Couper. The steady improvement that has marked its course had led us to hope for it a long career of usefulness.

—'Bird Migration in the Mississippi Valley, by W. W. Cooke and Otto Widmann,' is the title of 'Bulletin No. 1' of the Ridgway Ornithological Club. The paper originally appeared as a series of articles in the 'American Field' (see *anteà*, p. 188), and as here reprinted forms a pamphlet of 38 pages, and preserved in convenient form matter of great interest and value.

At the regular monthly meeting of the Ridgway Ornithological Club, held Feb. 7, Mr. B. T. Gault exhibited a hybrid between the Coot and Gallinule, and among the papers read was one by Dr. Morris Gibbs on

the 'Genus *Empidonax*,' and two by Mr. H. K. Coale, respectively on the 'Summer Birds of Hyde Park, Ill.,' and on the 'Winter Birds of Stark County, Indiana.' At the March meeting Mr. Gault read a paper on the breeding habits of *Picus nuttalli*, and Mr. Coale one on *Cypseloides niger borealis*. Mr. G. L. Tappan exhibited a fine male '*Milvulus tyrannus*,' recently taken 'in Cailfornia'.

—In the 'Proceedings' of the last annual meeting (1883) of the Boston Society of Natural History we notice the reported existence in the Society's collection of a specimen of the Labrador Duck (*Camptolæmus labradorius*) and an immature Black-throated Diver (*Colymbus arcticus*) which have been identified by the donor, the Hon. Theodore Lyman, as specimens which came into his possession in the flesh in 1850, under circumstances leaving little doubt of their Massachusetts origin, they having in all probability been killed in Boston Harbor. This example of the Labrador Duck is additional to those mentioned by the late Mr. G. D. Rowley, in his memoir on this species, as existing in museums.

—The A. O. U. Committee on the 'Classification and Nomenclature of North American Birds' has held a second session in Washington, lasting eighteen days, which was devoted mainly to a consideration of the status of the species and subspecies. From the progress already made, it seems probable that the Committee will be able to make a detailed and final report to the Union at its next meeting.

—The plan of the work undertaken by the Committee on Bird Migration was fully set forth in the first number of 'The Auk' (pp. 71-76), and a list of the Districts, with their respective Superintendents, as far as at that time arranged, was also given. Eastern Canada, having proved too large for a single District, has since been divided into two: Quebec and the Maritime Provinces remain in charge of Mr. Chamberlain; while Ontario has been placed under the able superintendence of the veteran ornithologist, Mr. Thomas McIlwrath, of Hamilton. Mr. John Fannin of Burrard Inlet, British Columbia, has been appointed Superintendent of British Columbia.

The article published in 'The Auk' was reprinted in circular form, and 3000 copies of it were soon distributed. This number proving insufficient, a second edition of 2000 copies (corrected to date), subsequently issued, was wholly exhausted within a week from the date of leaving the press. Another impression of 1000 copies has since been struck off, and will, it is believed, meet the demands for the remainder of the season.

As a result of this distribution of five thousand circulars, the Committee has already secured about five hundred observers, and the number is daily increasing. At present writing there are observers in every State and Territory in the United States, excepting Alabama, Utah, Wyoming, Idaho, and Nevada, and these vacancies will probably soon be supplied.

Our Canadian Superintendents have thus far secured more than sixty observers—a much larger number than the Committee expected.

Even at this early date the Committee has received formal returns from Newfoundland, and from a large number of Stations in the United States.

Through the courtesy of the Hon. Wm. Smith, Deputy Minister of Marine and Fisheries of Canada, and of Commander Henry F. Pickering, U. S. N., Secretary of the Lighthouse Board of the United States, the Committee has secured the coöperation of these departments, which, it is hardly necessary to add, is indispensable to the success of the undertaking. The Department of Marine and Fisheries and the Lighthouse Board have distributed over one thousand sets of blank schedules* and circulars to the Lighthouses, Lightships, and Beacons of the United States and British North America.

The Committee has thus far been unable to find a Superintendent for the Lighthouse Division, which consequently remains in charge of the Chairman.

—THE circular issued by the A. O. U. Committee on the eligibility or ineligibility of the European House Sparrow (*Passer domesticus*) in America calls for information in respect to the economic relations of this bird to agriculture and horticulture. The circular presents a series of twenty-eight questions, to which the Committee desires explicit answers from those who may be willing and able to aid it by statements of facts derived from their own investigations or experience. A digest of the statements received will be presented in their report to the Union at its next annual meeting. The circulars may be obtained from, and returned to, either Dr. J. B. Holder, Chairman of the Committee, New York; Mr. Eugene P. Bicknell, New York; Mr. H. A. Purdie, Boston, Mass.; Mr. Nathan Clifford Brown, Portland, Me.; or Mr. Montague Chamberlain, St. John, N. B.

—THE 'First International Ornithological Congress,' under the patronage of his Royal Highness, Archduke Rudolf, will be held in Vienna, April 7 to 14, 1884. Three special subjects have been announced for consideration, viz: (1) an international bird-protection law; (2) the derivation of the domestic fowl, and the rearing and propagation of poultry in general; (3) the establishment of a network of ornithological observation stations throughout the world.

—IN consequence of unavoidable delays the vignette for the cover of 'The Auk' was not prepared in time for use in the January number. The figure of the Great Auk (*Alca impennis*) now presented is reduced (with permission) from the plate of this species in Mr. Cory's 'Beautiful and Curious Birds of the World.'

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* Through the kindness of Prof. S. F. Baird, Secretary of the Smithsonian Institution, these schedules have been furnished to the Committee free of charge.